Intergovernmental Fiscal Relations in the Philippines

by

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Declaration

This thesis was written while I was studying at the Australian National University. The ideas expressed are my own, unless otherwise acknowledged in the text.

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Abstract

The study examines intergovernmental fiscal relations in the Philippines focusing on central government transfers to local governments. The main objective of the study is to assess whether central government transfers promote equity and local revenue mobilisation.

The fiscal capacity, measured by the fiscal gap, serves as the basis of the assessment. Using the province as the unit of analysis, the fiscal gaps of local governments were measured as the difference between expenditure needs and revenue capacities. The revenue capacities and revenue efforts of local governments were first measured based on the relationship between their revenues and socioeconomic characteristics using a random coefficient regression model. The expenditures of local governments were then regressed on the estimated revenue capacities and various socioeconomic factors that can affect the costs of providing government services. The expenditure regression results were used to measure expenditure needs representing the relative disabilities of local governments to provide services at 'normal costs' due to factors beyond their control.

The study shows that the allocation formula of the internal revenue allotment, both under the previous and the existing laws, tended to worsen the disparities in the fiscal gaps of local governments. The current law appears to be more inequitable. The same is true of the distribution of grants to local governments. The study also shows that central government transfers neither stimulate nor substitute for local government revenue efforts. The failure of central government transfers to promote these objectives is attributed not only to their design, but also to other aspects of central–local government relations, such as the constraints on local taxation and budgeting, and the highly fragmented local government system.

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1
Introduction

Musgrave (1959) suggests that, from an economic perspective, the public sector can be characterised as having three major objectives: 1) to promote efficient allocation of resources; 2) to redistribute income and wealth equitably; and 3) to maintain high and stable levels of employment and growth of output. This study, which is concerned with intergovernmental fiscal relations, dwells mainly on the first two objectives as the last is generally considered to be a central government function.

An examination of intergovernmental fiscal relations in the Philippines focuses on central government transfers to local governments. Revenue sharing and grants are integral aspects of central–local government relations in the Philippines. They assumed greater significance with recent decentralisation reforms which increased the amount of central government transfers to local governments to enable them to carry out functions devolved to them.

A major hypothesis of this study is that central government transfers do not promote adequate and equitable financing and distribution of public goods and services across local government units. Central government transfers are not wholly used by local governments to increase provision of public goods and services; they are partly used as a substitute for local taxes. This is viewed with concern because the unmet demand for public services is large, and the dependence of local governments on central government transfers is heavy. The allocation of transfers also does not adequately take account of the varying fiscal positions of local government units. Thus, without significant modifications to the system of transfers, there is a strong possibility that decentralisation reforms will worsen the inadequacy of and disparity in the financing and provision of public services across the country.

This study is organised into nine chapters. The next chapter provides an overview of public finance in the Philippines. It describes how three major aspects of public finance—public expenditures, revenue mobilisation and intergovernmental

relations—have contributed to poor economic performance, persistence of poverty, and urban/rural and regional disparities.

Chapter 3 discusses intergovernmental relations in the Philippines. It describes the structure of government, the assignment of expenditure and taxing power to each government level, the planning and budgeting process, and the fiscal conditions of local governments. Overcentralisation and attempts at decentralisation are the major themes of the discussion. The limited revenues of local government and their uneven fiscal capacities surface as the major issues of intergovernmental fiscal relations. These issues have become more critical with the decentralisation reforms under the recently enacted Local Government Code.

Chapter 4 provides a theoretical background to the study. It examines the reasons for decentralisation in the broader context of the theories of assignment of expenditure functions and taxing powers among levels of government. The literature suggests that vertical fiscal imbalance (mismatch between expenditure requirements and revenue sources of governments at different 'levels') and horizontal fiscal imbalance (inequality in the expenditure needs and revenue capacity of governments at the same level) are likely to occur with decentralisation. The chapter continues with a discussion of the implications of vertical and horizontal fiscal imbalances, and concludes with a discussion of intergovernmental fiscal transfers as a means of addressing these problems.

Chapter 5 presents the conceptual framework and methodology. The varying fiscal positions and performance of local governments, with the province as the unit of analysis, provide the bases for the assessment of whether central government transfers promote adequate and equitable financing and distribution of public goods and services. The fiscal positions of local governments are indicated by their fiscal gaps which measure the difference between what they need to spend to provide a basic package of local services (expenditure needs) and their available revenues at a standard level of tax effort (revenue capacity). The chapter reviews the various methodologies of measuring revenue capacity and effort, and suggests an alternative approach. This approach is based on the random coefficient regression model which is

used in the estimation of firm potential output and efficiency. The chapter also reviews the various methodologies used to measure expenditure needs, which are largely based on expenditure determinants analysis.

Chapter 6 discusses the legal framework of the revenue raising powers of local governments, and examines the growth and composition of local government revenues. An in–depth, cross–sectional analysis of the variation in local government revenues is undertaken using the province as the unit of analysis. A revenue function—wherein the dependent variable is the per capita local government revenue, and the independent variables are the socioeconomic characteristics of the provinces—is estimated using the random coefficient regression model. The parameter estimates of the model are used to calculate revenue capacity and revenue efforts of each province. Rank analysis is then used to assess whether a local government's low or high tax revenue is due to tax capacity or tax effort factors.

Chapter 7 discusses the legal aspects of local government budgets and analyses the trends and patterns of local government expenditures. Based on the median voter constrained utility maximisation model discussed in chapter 5, the variation in per capita local government expenditures across provinces is examined. Per capita local government expenditures are regressed on revenue capacity, average per capita income, central government transfers, and socioeconomic characteristics which could affect the costs of providing public services. Differences in expenditures due to socioeconomic cost factors beyond the control of local government authorities constitute the basis of expenditure needs. Based on the regression results, cost indices and measures of expenditure needs are calculated by province.

Chapter 8 examines the system and role of central government transfers, particularly revenue sharing, in local government finance. The equity of the revenue sharing and grants is evaluated in relation to the two components of fiscal capacities—revenue capacities and expenditure needs—and their summary measures, the fiscal gaps. The Spearman rank correlation coefficient and the Schutz coefficient of inequality are used to assess the equity of the transfers. The

chapter also examines whether revenue shares and grants substitute for local government revenue efforts. An alternative allocation method of revenue shares aimed at reducing disparities in fiscal position of local governments is then presented.

Chapter 9 summarises the results and limitations of the study.

2
Public finance in the Philippines

Overview

The Philippine Medium–Term Development Plan covering 1987 to 1992, identified three fundamental problems: 1) persistence of poverty and income inequality, 2) high unemployment and underemployment, and 3) urban/rural and regional disparities. Public finance policies, instead of alleviating them, contributed to all three problems.

The Philippines is the only country in Southeast Asia which has not experienced a demographic transition. Its average annual population growth rate of 2.5 per cent during the past decade was the highest in the region and constitutes a minimal improvement on the 2.8 per cent population growth rate registered from 1965 to 1980 (de Dios, 1993). The workforce has been increasing by over 600,000 a year. Because of persistent slow growth, 11 per cent of the workforce is unemployed and another 20 to 30 per cent is underemployed (Fegan and Purcal, 1993). High unemployment and underemployment rates have led to severe income inequality. The richest fifth of the population receives more than 50 per cent of the total income while the poorest two–fifths receive only 14 per cent (de Dios, 1993).

Regional development in the Philippines has been highly uneven with the two upper income regions (Metro Manila and Southern Tagalog) accounting for 45 per cent of gross domestic product. The gross domestic product of Metro Manila alone is equal to the middle income regions (Central Luzon, Central Visayas, Western Visayas, and Southern Mindanao) which have a combined share of 31 per cent. The low income group, consisting of seven regions and representing 48 per cent of the population, accounts for 23 per cent of gross domestic product (Table 2.1). Uneven regional development has constrained the overall growth of the economy.

Table 2.1 **Shares of real GDP by region, Philippines, 1973–89** (per cent)

Region/year		1973–76	1977–80	1981–84	1985–88	1989
	Upper income	44.8	45.5	45.6	43.9	44.4
	Metro Manila	30.8	31.6	31.6	29.7	31.0
IV.	Southern Tagalog	14.0	14.0	14.0	14.2	13.4
	Middle income	32.2	29.7	31.1	29.6	29.5
III.	Central Luzon	8.6	8.4	8.8	8.2	8.2
VI.	Western Visayas	9.2	8.2	8.3	7.0	6.7
VII.	Central Visayas	7.2	7.3	7.2	7.2	7.5
XI.	Southern Mindanao	7.1	5.8	6.8	7.3	7.1
	Low income	23.1	23.8	23.4	26.5	25.9
X.	Northern Mindanao	4.5	4.8	4.6	5.5	5.5
I.	Ilocos	3.7	3.7	3.9	4.5	4.4
XII.	Central Mindanao	3.0	3.2	3.7	4.0	3.9
IX.	Western Mindanao	2.8	3.4	3.2	3.7	3.7
V.	Bicol	3.5	3.4	3.1	3.4	3.2
II.	Cagayan Valley	2.8	2.8	2.5	2.5	2.3
VIII.	Eastern Visayas	2.7	2.5	2.3	2.9	2.9

Source: Padilla, E., 1987. The growth center strategy to regional development: the Philippine experience, PhD Thesis, Michigan State University; and Philippines, National Statistical Coordinating Board, 1991. *Philippine Statistical Yearbook.*

The spatial and geographical dimensions of poverty in the Philippines are closely related to unbalanced inter–regional and intra–regional development. The lowest poverty incidence was recorded in Metro Manila at 32 per cent while the highest poverty incidence was in Bicol at 65 per cent (Table 2.2).

In 1988, it was estimated that 5.8 million Filipino families or 55 per cent of the total population lived below the poverty line. The incidence of poverty remained virtually unchanged during the previous two decades. The number of poor families increased. This was in marked contrast to other Southeast Asian countries which have made considerable progress in poverty alleviation (de Dios, 1993).

Table 2.2 **Incidence of poverty, by region, Philippines, 1985 and 1988**

Region		1985		1988	
		Poverty threshold[a] (pesos)	Poverty incidence[b] (per cent)	Poverty threshold[a] (pesos)	Poverty incidence[b] (per cent)
	Metro Manila	3,282	44	4,037	32
I.	Ilocos	2,389	52	2,597	48
II.	Cagayan Valley	2,201	56	2,576	49
III.	Cental Luzon	2,552	44	2,881	40
IV.	Southern Tagalog	2,471	55	2,832	49
V.	Bicol	2,143	74	2,443	65
VI.	Western Visayas	2,453	73	2,654	62
VII.	Central Visayas	1,987	70	2,173	55
VIII.	Eastern Visayas	2,105	70	2,263	60
IX.	Western Mindanao	2,119	63	2,289	52
X.	Northern Mindanao	2,249	66	2,439	52
XI.	Southern Mindanao	2,389	60	2,763	52
XII.	Central Mindanao	2,212	64	2,468	47
	Philippines	2,381	59	2,709	50

[a]Minimum average monthly income that a family of six members should receive to be considered above poverty. For 1988, the poverty threshold level was derived using 1985 levels inflated to 1988 prices.
[B]Proportion of families below poverty level.

Source: Philippines, National Statistical Coordinating Board, 1991. *Philippine Statistical Yearbook.*

Slow and erratic economic growth is the major reason for worsening poverty in the Philippines (de Dios, 1993). During the 1970s the Philippine economy grew at an historically unprecedented rate—average annual growth rates in gross national product and per capita gross national product were 6.4 per cent and 3.5 per cent, respectively. However, this growth paled in comparison with that of other East Asian countries (Table 2.3). Worse still, it was not sustained. In 1983, the Philippines experienced its worst economic and financial crisis. A moratorium was declared in servicing external debt obligations. Real output of the economy contracted in 1984 and 1985. Positive growth rates were achieved in the latter half of the 1980s, but these were short-lived. In 1991, the economy suffered another contraction.

Table 2.3 **Average annual growth rate of real GDP per capita, Southeast Asian countries, 1960–85** (per cent)

Country/year	1960–70	1970–80	1980–85	1960–1985
Indonesia	1.6[a]	6.6	3.4	4.1[b]
Malaysia	3.3	7.4	1.9	4.6
Philippines	2.3	3.6	–2.6	1.8
Singapore	6.5	7.3	11.1	7.7
Thailand	4.4	4.8	2.3	4.1

[a]1962–70
[b]1962–85

Note: For international comparability, per capita GDP was based on purchasing power parity at constant 1980 international prices.

Source: Austria, M.,1992. Aggregate productivity in the Philippine economy, PhD Thesis, The Australian National University.

Imprudent Fiscal Policy and Macroeconomic Instability

Poor economic performance and economic and financial crises of the early 1980s in particular, have been attributed to excessive protectionism (Shepherd and Alburo, 1991; Alburo, Medalla and Pante, 1989) and macroeconomic instability. Poor fiscal policies lie at the centre of macroeconomic instability in the Philippines. Imprudent policies led to huge budget deficits which resulted in internal imbalances (as manifested by high inflation, rising real interest rate and falling private investment) and external imbalances (in the form of current account deficits, capital flight and rapidly expanding external debt).

Traditionally, the Philippines had a small public sector. A low tax effort and inadequate government investment, particularly in rural infrastructure, hampered economic development in the 1950s and 1960s (International Labour Organisation, 1974). In the 1970s the government pursued an active fiscal expansion policy aimed at stimulating economic growth. Total national government expenditure as a percentage of GNP rose from 12 per cent in 1974 to 15–16 per cent in succeeding years (Table 2.4). Public sector investment rose to unprecedented levels, averaging 10 per cent of GNP in 1975–1984, compared to 1.5 per cent of GNP in 1971 (Manasan, 1988). The growth in government expenditures was not matched by commensurate improvement in tax effort especially for 1980. As a result, the country experienced chronic and

severe budget deficits. In the two years immediately preceding the 1983 crisis, the budget deficit of the national government averaged more than 4 per cent of GNP, compared to the less than 1 per cent prior to the mid–seventies (Table 2.4).

Table 2.4 **National government budget deficit, Philippines, 1960–91**

Year	Billion pesos			Percentage of GNP		
	Total revenues	Expenditures	Surplus/ (Deficit)	Total revenues	Expenditures	Surplus/ (Deficit)
1960	1.71	1.70	0.01	12.33	12.27	0.06
1961	1.86	2.09	-0.23	12.24	13.77	-1.53
1962	2.05	2.00	0.05	12.04	11.73	0.31
1963	2.64	2.75	-0.12	13.31	13.90	-0.58
1964	2.48	2.46	0.03	11.62	11.48	0.14
1965	2.53	2.84	-0.30	10.83	12.13	-1.29
1966	3.04	3.19	-0.15	11.80	12.39	-0.59
1967	3.58	3.81	-0.24	12.45	13.27	-0.82
1968	4.06	4.32	-0.26	12.76	13.58	-0.82
1969	4.51	5.51	-1.00	12.88	15.73	-2.84
1970	4.85	4.79	0.06	11.61	11.47	0.14
1971	5.87	6.05	-0.18	11.83	12.20	-0.37
1972	6.97	8.07	-1.10	12.47	14.44	-1.97
1973	9.50	10.34	-0.84	13.16	14.32	-1.17
1974	12.16	11.71	0.44	12.17	11.72	0.45
1975	16.84	18.20	-1.36	14.72	15.91	-1.19
1976	18.30	20.65	-2.35	13.64	15.39	-1.75
1977	19.96	22.77	-2.81	13.02	14.85	-1.83
1978	24.01	26.18	-2.17	13.56	14.79	-1.23
1979	29.32	29.67	-0.35	13.45	13.61	-0.16
1980	34.37	37.76	-3.38	13.00	14.28	-1.28
1981	35.74	47.89	-12.15	11.77	15.77	-4.00
1982	37.99	52.41	-14.41	11.33	15.63	-4.30
1983	45.61	53.07	-7.47	12.04	14.01	-1.97
1984	56.83	66.78	-9.96	10.77	12.66	-1.89
1985	68.96	80.12	-11.16	12.40	14.41	-2.01
1986	79.24	109.89	-30.65	13.28	18.42	-5.14
1987	103.21	119.94	-16.73	15.32	17.80	-2.48
1988	112.86	136.10	-23.24	14.18	17.11	-2.92
1989	152.41	171.98	-19.57	16.68	18.82	-2.14
1990	180.90	218.10	-37.19	16.80	20.25	-3.45
1991	220.79	247.14	-26.35	17.64	19.74	-2.11

Source: International Monetary Fund, 1992. *International Financial Statistics*, Washington, D.C.

The government budget deficit and the manner in which it was financed introduced serious distortions and widespread instability into the economy. The deficit was financed in a number of ways: money creation, reserve requirements in banking, domestic borrowing and foreign borrowing. Between 1975 and 1984, around 7 per cent of the budget deficit was financed by money creation—that is, by the Central Bank funding of government debt. Domestic borrowing outside the Central Bank

financed close to 36 per cent of the deficit. The bulk of the deficit, amounting to 57 per cent, was financed by external borrowing (Manasan, 1988).

Although money creation financed a relatively small portion of the budget deficit, it accounted for a significant portion of the total change in reserve money, particularly in 1976, 1980–82 and 1985. High inflation ensued. Using 1975–84 data, Manasan (1988) estimated the inflationary effects of increases in money supply. Her study suggested that a 10 per cent growth in net Central Bank holding of government debt would result in a 4.5 per cent increase in money supply, which in turn would cause around a 6 per cent increase in the consumer price index.

Inflation also contributed to the worsening balance of payments. The peso remained overvalued in real terms in spite of a series of nominal devaluations because the Philippines' inflation exceeded that of its trading partners (Hill and Jayasuriya, 1985). The Philippine public shied away from holding currency because of inflation and expectation of depreciation. As a result the money printed and the debt incurred by the government to finance its deficit increased the demand for foreign goods and foreign financial assets. Morgan Guaranty Trust Company (1986) estimated that from 1976 to 1985 the ratio of capital flight to external debt averaged 39 per cent, while Khan and Ul Haque (1987) estimated it at 36 per cent from 1974 to 1982.

The government's domestic borrowing competed with the private sector for savings in the economy and crowded out private investment projects. Manasan (1988) noted that net domestic credit to the private sector was markedly reduced in 1984–1985 when treasury bills offered unprecedentedly high yields.

Massive foreign borrowing worsened the current account deficit and the government budget deficit. Given the repressed financial system and the controls on foreign exchange, the inflow of foreign loans resulted in the appreciation of the peso. This enabled greater consumption of imports and at the same time penalised exports, thus exerting a doubly adverse effect on the current account deficit. The current account deficit averaged around 5 per cent of GNP in 1975–80 and rose to nearly 8 per cent of GNP in 1982 (Dohner and Intal, 1989). Debt servicing was also a huge drain on the government's budget and exerted strong pressure to bloat the deficit given

the low income elasticity and buoyancy of the revenue system. The government budget deficit peaked in 1981–82, averaging around 4 per cent of GNP; the consolidated public sector deficit reached close to 6 per cent of GNP (Dohner and Intal, 1989).

The Philippine government experienced increasing difficulties in managing its budget and current account deficits in the early 1980s. The government's external debt rose from only US$1.2 billion in 1971 to US$14 billion in 1983. The capacity to service debt weakened considerably as the debt–service ratio increased from 21 per cent in the 1970s to 38 per cent in 1980–1983. External factors such as the deterioration in the terms of trade, oil price increases and rise in world interest rates contributed, but it was the failure to adopt reforms in the midst of these developments, however, that severely weakened the economy. Fiscal policy continued to be expansionary. Borrowing from commercial sources increased at floating rates to sustain an aggressive public investment program (Dohner and Intal, 1989; World Bank, 1986).

Table 2.5 **Comparative exchange rates, Southeast Asia, 1970, 1980–82, 1990** (1970=100)

Year/country	Philippines	Malaysia	Thailand	Indonesia
1970	100.0	100.0	100.0	100.0
1980–82	106.4	79.4	80.9	89.9
1990	69.9	51.4	54.4	35.7

Source: Fegan, B. and Purcal , J. T., 1993. 'Philippines', *Asia–Australia Briefing Papers*, 2(6).

Imprudent government spending created a momentum that made it difficult to introduce reforms. It took a long time for the government to initiate financial liberalization policies, because repressed interest rates supported its domestic borrowing. Foreign exchange was kept significantly overvalued because devaluation increased the burden of servicing the external debt in peso terms. Devaluation also contributed to the inflationary pressure arising from the manner of financing the government budget deficit. Among Southeast Asian currencies, the Philippine peso was most overvalued.

The political and economic crises in 1983 resulted in an acute balance of payments problem. Foreign creditors stopped lending and called up their maturing loans. The Philippines was forced to declare a moratorium on servicing its debt obligation and to initiate a program of stabilisation. Drastic cuts were made in public expenditures and a restrictive monetary policy was enforced. National government expenditures were considerably reduced to around 2 per cent of GNP (Table 2.4). The peso was devalued several times, but the devaluations were not sufficient to adjust the exchange rate to a realistic level. Quantitative and tariff restrictions were imposed on imports, and foreign exchange was rationed, thereby reducing the efficiency of private investment.

The stabilisation measures reduced the current account and budget deficits. Inflation was reduced to a single digit. But these achievements were at the cost of growth. Real GNP decreased by around 7 per cent and 4 per cent in 1984 and 1985, respectively (Dohner and Intal, 1989).

With low inflation and excess capacity, the economy, led by increased consumption, managed to achieve positive growth rates in 1986–1989. Government pump priming activities helped and so did economic reforms. Agricultural monopolies were dismantled, increasing rural incomes. An import liberalization program lowered the prices of several commodities. Recovery was also aided by a favourable movement in the terms of trade resulting from lower oil prices, higher exports, and increased foreign investments facilitated by debt conversion schemes (Yap, 1991).

The government budget deficit, however, worsened in 1986–90, averaging more than 3 per cent of GNP. This was brought about mainly by increases in current operating expenditures, in particular, the accretion in debt service. Around 40 per cent of the government budget went to payment of interest and amortisation. Personal service expenditures also rose in response to the need to raise the wages of government employees which had been seriously eroded by inflation. Failure to trim the fat from the bureaucracy also increased government expenditures. (Manasan, 1990). Capital outlays were kept within the reduced 1984–85 levels.

The budget deficit was largely financed by domestic borrowing which pushed interest rates to very high levels. External borrowing was substantially cut because of the tightness of the credit market, and a net capital outflow was brought about by debt servicing. Monetary policy was generally restrictive, to control inflation which had risen to double digits as a result of increased wages in both the private and public sectors. In 1990 the economy was thus in a very unfavourable position with high inflation and interest rates. This was compounded by a large current account deficit at 6 per cent of GNP (Yap, 1991). The following year saw the government cutting its deficit and the economy contracting, a manifestation of the boom–bust cycle which has characterised the Philippines' economic performance since the 1950s.

Inefficient and Inequitable Government Spending

Debt servicing poses a major constraint to closing the government budget deficit without severely curtailing expenditures on critical infrastructure and essential services. . The size of the debt is a major reason for balance of payments deficits. The manner in which the loans were used also posed problems.

Borrowing was justified on the grounds of increasing the productive capacity of the economy. Between 1975 and 1984, gross domestic capital formation rose to an average of 30 per cent of GNP. Public sector investment which grew by 20 per cent a year, accounted for most of the increase. Private sector investment growth lagged behind at 9 per cent a year and its share in gross domestic capital formation fell from 76 per cent in 1975 to 57 per cent in 1984 (Manasan, 1988). Incremental capital–output ratios were high, indicating that investments, private as well as public, were highly capital intensive and hence, inefficient for the Philippines. As Dohner and Intal (1989) noted, the Philippines' growth rate would have been over 8 per cent per year and real GDP in 1980 would have been almost 12 per cent higher had the Philippines' incremental capital–output ratio equaled the median (Malaysia's) in the list of countries in Table 2.6.

Table 2.6 **Comparative investment and growth rates, Southeast Asian countries, 1974–80**

Country	Gross domestic capital formation as a percentage of GDP	Average annual real GDP growth (per cent)	Incremental capital–output ratio
Philippines	29.3	6.26	4.68
Indonesia	20.0	7.42	2.70
Malaysia	25.8	7.26	3.55
Thailand	26.1	7.48	3.48
Korea	29.8	7.67	3.89

Source: Dohner, R. and Intal, P., 1989. 'The Marcos legacy: economic policy and foreign debt in the Philippines', in J. Sachs and S. Collins (eds.),1989. *Developing Country Debt and the World Economy*, National Bureau of Economic Research Project Series, Chicago.

Public sector investment was carried out mainly by government corporations. The number of government owned and/or controlled corporations rose from 70 in 1973 to 245 in 1985. Most of these were involved in activities previously dominated by the private sector: services (26 per cent), manufacturing (19 per cent), finance (16 per cent) and energy (2 per cent) (Manasan, 1988). These corporations became recipients of large transfers from the national government and accounted for most of the public sector deficit and external debt. Their poor performance was largely responsible for the financial crisis in 1983. Many became bankrupt leaving the national government and government financial institutions with large non–performing assets.

The composition of the national government budget changed. The share of conventional infrastructure, for example, roads, bridges, irrigation, school buildings, in the capital outlay of the national government declined in the mid–seventies. In the latter half of the 1970s, almost half of public investments went to energy projects with heavy capital requirements. The Bataan Nuclear Power Plant which cost the government almost one–tenth of its external debt and later had to be abandoned, was one of many unwise investments.

Public investment strategy shifted to industrial development in the early 1980s. Eleven major industrial projects designed for secondary import substitution were identified. These projects required huge capital outlays which were expected to be partly financed by foreign direct investment. However, they were carried out mainly by

government corporations with heavy equity participation from the national government (Dohner and Intal, 1989).

The share of current expenditures in the national government budget declined. Operations and maintenance expenditures declined by 14 per cent in real terms between 1978 and 1983 in spite of the build up in capital stock. Such expenditures were squeezed to provide local counterpart finances to foreign assisted projects and maintain the inflow of foreign capital. This, however, resulted in the premature deterioration of existing capital stock (Dohner and Intal, 1989).

Budget sectoral allocations also changed markedly. Expenditure on social services declined relative to economic services. This had adverse implications for poor people and on human resource development. Social services such as education, health and sanitation enhance people's productivity and their capacity to help themselves. They are important for both growth and equity.

The decline in the share of traditional infrastructure such as roads and bridges, also deepened poverty. The absence of adequate infrastructure increased transaction costs which drove a wedge between prices charged by producers and paid by consumers (de Dios, 1993). This hindered investment and reduced employment opportunities for the poor.

The rural sector was disadvantaged by the public investment program. Both physical and social infrastructure spending were heavily skewed in favour of the urban centres, particularly Manila, to support the industrialisation via import substitution strategy which was also biased against the agricultural sector.

Three tiers characterised the allocation of central government expenditures. The first tier, consisting solely of Metro Manila, captured 43 per cent of total central government expenditures. Central Luzon and Southern Tagalog, with 10 per cent and 12 per cent respectively of central government expenditures, comprised the second tier. The remaining 10 regions were each allocated less than 5 per cent of total government expenditures (Manasan, 1992a).

The inequitable allocation of government expenditures was a major factor in the highly uneven level of regional development. Lamberte, Llanto and Manasan (1993) observed a strong positive correlation among gross regional product and average family income on the one hand, and road density, percentage of households with electricity, and percentage of households with running water, on the other hand. They also pointed out the importance of infrastructure in attracting private investments to a region.

Government Revenue Effort

The revenue effort of the government is low by international standards, and is a major reason for large budget deficits. Among Southeast Asian countries the Philippines had the lowest ratio of government revenue to gross national product (Asher and Kintanar, 1989). It is also at the bottom of low–income and middle–income countries in terms of taxes collected as a share of gross national product (World Bank, 1988).

Table 2.7 **Composition of tax revenue of the national government, by broad categories, Philippines, 1975–86** (per cent)

Tax category	Average share
Taxes on income and profits	23
Taxes on domestic goods and services	34
Taxes on international trade	26
Others	17
Total	100

Source: Asher, M. and Kintanar, A., 1989. 'Fiscal systems and practices in the Philippines', in M.G. Asher (ed.), 1989. *Fiscal systems and practices in ASEAN: trends, impact and evaluation*, Institute of Southeast Asian Studies, Singapore.

The government relied heavily on indirect taxes (Dohner and Intal, 1989). Taxes on domestic goods and services, and international trade, accounted for around 70 per cent of the national tax revenue. These taxes have a very low income elasticity; they are not responsive to changes in gross national product. Changes in tax rates, in the definition of tax bases, and administrative reforms had to be continuously introduced to keep up with the growth in gross national product. The tax measures adopted in the Philippines were, nevertheless, not sufficient to make growth in tax

revenue match that of GNP. This was indicated by the low buoyancy of total tax revenue of 0.88; allowing for all discretionary measures, a 10 per cent increase in GNP would increase total tax revenue by only 8.8 per cent (Manasan, 1988).

Table 2.8 **Buoyancy and elasticity estimates of tax revenues, by broad categories, Philippines, 1975–86**

Tax category	Buoyancy	Elasticity
Total tax revenue	0.88	0.25
Taxes on income and profits	0.97	0.82
Taxes on domestic goods and services	0.92	0.22
Taxes on international trade	0.72	0.45
Real property taxes	0.86	0.59

Source: Manasan, R., 1988. *Financing Public Sector Development Expenditure in Selected Countries: Philippines*, Asian Development Bank, Manila.

The tax base was eroded. Corporate taxes fell sharply in spite of the growth of the corporate sector in the mid–seventies because of tax incentives—exemptions, credits, and holidays—granted extensively to industries and individual firms to promote industrialisation. Tax exemptions were also used to dispense political favours to selected individuals and 'crony' corporations (Dohner and Intal, 1989; Asher and Kintanar, 1989).

Inadequate and inefficient administration plagued the tax system. Individual income earners, importers and consumers were not fully taxed. In 1985, only 13 to 27 per cent of potential income tax payers filed returns. It was estimated that in 1989, P27 billion to P66 billion remained uncollected (Krugman, *et al.*, 1992). Amnesties were a recurrent feature of the tax system. Between 1972 and 1981 there were 10 tax amnesty decrees. Since 1986, three tax amnesties have been associated with the Tax Reform Program (Asher and Kintanar, 1989).

Centralised Government Structure

The fiscal system in the Philippines is highly centralised. The national government controls the major taxes on income and profits, goods and services, and international trade. The only major tax assigned to local governments is the real property tax which accounted for 37 per cent and 40 per cent of locally sourced revenues in 1976 and

1990, respectively. Local taxing powers are also circumscribed by the national government's prescription of allowable rates and exemptions. Instead of being active partners of the national government in revenue mobilisation, local governments are highly dependent on transfers and grants. National government transfers account for around 40 per cent of total local government income (Manasan, 1992a).

Table 2.9 **Percentage distribution of total government revenues between national and local governments, Philippines, 1976, 1980, 1985 and 1990**

Year	National government	Local government
1976	95	5
1980	93	7
1985	94	6
1990	95	5

Source: Manasan, R., 1992. *Intergovernmental Fiscal Relations, Fiscal Federalism and Economic Development*, Working Paper 92-04, Philippine Institute for Development Studies, Makati.

The central government also dominates total government expenditures. Prior to the Local Government Code of 1991, the national government was involved in the provision of all government services, even at the local level, with minimal involvement of local governments. The International Labor Organisation mission to the Philippines in 1974 pointed out that lack of active involvement of local governments was one of the major reasons for the inadequacy of infrastructure in the rural areas.

Table 2.10 **Percentage distribution of total government expenditures between national and local governments, Philippines, 1980, 1985 and 1990**

Year	National government	Local government
1980	89	11
1985	91	9
1990	93	7

Source: Manasan, R., 1992. *Intergovernmental Fiscal Relations, Fiscal Federalism and Economic Development in the Philippines*, Working Paper 92–04, Philippine Institute for Development Studies, Makati.

Highly centralised government has been blamed for the general inefficiency of the public sector. Red tape, bureaucratic rules and congestion in the channels of administration and communication between national and local agencies have resulted in

long delays and misallocation of resources (Lim, 1992). The highly uneven level of development among and within regions also reflects costs of overcentralisation.

Decentralisation has recently been initiated, notably through the Local Government Code of 1991. There are no guarantees, however, that this will result in higher, more even levels of public service provision and development. Decentralisation reforms are being carried out on an uneven playing field. Fiscal capacities of local governments differ because of varying socioeconomic characteristics. Those with greater fiscal capacities are in a better position to provide the services that could further enhance their socioeconomic position, thereby further widening inter–regional and intra–regional inequities. Yet under more favourable intergovernmental fiscal arrangements, transfers and grants can play a critical role in promoting equity and encouraging greater local tax efforts.

Summary

Public finance policies are largely to blame for the persistence of poverty and income inequality in the Philippines. Imprudent public spending and low resource mobilisation efforts have led to chronic fiscal deficits and macro economic instability which stunt economic growth. Too much concentration of tax and expenditure powers in the central government has prevented local governments from being active partners in the provision of economic and social services, and has resulted in inefficiency and uneven geographic development which is closely linked to poverty. Recent attempts at government decentralisation may not help bring about macro economic stability, but under favourable intergovernmental fiscal arrangements it can help promote equity and efficiency in the allocation of resources.

3
Intergovernmental relations in the Philippines

Government Structure

The Philippines is a unitary state which is subdivided into regions, provinces, cities, municipalities and *barangays.*

The National Government. The national government has responsibilities and powers which extend over the whole country. It consists of three independent branches: the executive, the legislature and the judiciary. The executive, headed by a popularly elected president, is primarily responsible for implementing the laws, policies and programs of the government. The executive is functionally organised into sectoral departments, each headed by a cabinet secretary. The legislature, or Congress, is bicameral and composed of the Senate and the House of Representatives. Senators are nationally elected while representatives are elected by legislative districts. All revenue and appropriation bills originate exclusively in the House of Representatives. The judiciary which interprets the laws of the land is composed of the Supreme Court and the lower courts (The Philippine Constitution of 1987).

The regions. A region consists of contiguous provinces with a common resource (such as a body of water or mountain range), economic and social structures or a distinctive historical and cultural heritage. The regions originated as focal points for the decentralisation of some administrative and planning functions of the national government. Each department of the national government, particularly those with project implementation functions (line agencies) has regional offices functionally organised parallel to the central office (De Guzman, Reforma and Panganiban, 1988; Brillantes, 1987).

The number of regions has increased from 13 to 15 with the creation of the autonomous regions in Muslim Mindanao and the Cordilleras (Appendix 3.1). Unlike the other regions, these newly created regions have political autonomy. Having a distinctive historical and cultural heritage, and economic and social structures, the two regions were formed on the basis of organic acts defining their basic structure of

government. They have executive and legislative offices whose officials are elected by their constituents, and special courts with personal, family and property law jurisdictions (The Philippine Constitution of 1987).

The National Capital Region, composed of the cities and municipalities of Metro Manila, is a special metropolitan political subdivision. It was created to administer programs and services common to its cities and municipalities. It is governed by the Metropolitan Manila Commission which is vested with the power and attributes of a municipal corporation, and the power to impose taxes and enact/repeal ordinances pertinent to its cities and municipalities (De Guzman and Padilla, 1985).

The Local Governments.[1] The territorial and political subdivisions of the country are the *barangays*, municipalities, cities and provinces. The *barangay* is the lowest tier of local governance. A group of *barangays* comprises a municipality. A city consists of more urbanised and developed *barangays*. A city may be classified as highly urbanised and be independent of the province upon meeting certain requirements. A cluster of municipalities, or municipalities and component cities, comprises a province.

The creation of a local government unit or its conversion from one level to another, is based on three criteria: income, population and land area. As a general rule, its territory must be contiguous. A local government unit is created by law enacted by Congress in the case of a province, city, municipality, or, by ordinance passed by the legislative bodies of the province or city concerned in the case of a *barangay*. Legislation creating a local government unit is subject to approval by a majority of votes cast in a plebiscite called for the purpose.

Table 3.1 details the requisites for the creation of local government units based on Republic Act No. 7160 which took effect in 1992 and the previous law, *Batas Pambansa Blg.* 337 (series of 1983). The main reasons for these requirements are to avoid gerrymandering and to guarantee that each local government unit can adequately perform its assigned functions (De Guzman, Reforma and Panganiban, 1988). There are doubts, however, whether these requirements effectively serve their purposes. There is no evidence that they were drawn with regard to the functions and revenue raising

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[1] Unless otherwise stated, this section is based on *Batas Pambansa Blg. 337* and Republic Act No. 7160.

Table 3.1 **Requisites for the creation of local government units, old and new Local Government Codes, Philippines**

Unit	Criteria	Statute: *Batas Pambansa Blg.* 337 (Old Local Government Code)		Statute: Republic Act No. 7160 (New Local Government Code)	
Barangay	income	no requirement		no requirement	
	population	1,000		5,000 for *barangays* in cities and municipalities within Metro Manila and other metropolitan political subdivisions or highly urbanised cities; 2,000 for all other barangays	
	land area	no requirement		no requirement	
Municipality	income	P200,000[a]		P2.5 million[b]	
	population	10,000		25,000	
	land area	no requirement		50 sq. km.	
City		**component**	**highly urbanised**	**component**	**highly urbanised**
	income	P10 million[a]	P30 million[a]	P20 million[b] **and either**	P50 million[c]
	population	100,000	150,000	150,000 **or**	200,000
	land area	no requirement		100 sq. km.	
Province	income	P10 million[a]		P20 million[b] **and either**	
	population	500,000		250,000 **or**	
	land area	3,500 sq. km.		2,000 sq. km.	

[a]Refers to average estimated annual income (in the case of municipalities and provinces) or average regular annual income (in the case of cities), for the last three consecutive years and includes income allotted for the general and infrastructure funds, exclusive of trust funds, transfers and non-recurring income.
[b]Refers to average annual income for the last two consecutive years [although pertinent provisions on the province fail to state a time frame] based on 1991 constant prices, and includes income accruing to the general fund, exclusive of special funds, transfers and non-recurring income.
[c]Refers to the latest annual income based on 1991 constant prices.

Sources: *Batas Pambansa Blg.* 337 (1983) and Republic Act No.7160 (1991)

powers assigned to each local government level. In the case of *barangay*, for example, the only requirement is population size. It is no wonder that the number of *barangays* has increased very fast. From 1991 to 1994, an additional 93 *barangays* were created. As of 1994, the Philippines had 77 provinces,[2] 60 cities, 1,542 municipalities and 41,914 *barangays*. Aside from political reasons, there are incentives for the creation of local government units, such as central government transfers.[3]

Every local government, in exercising its powers, assumes a dual personality: public or governmental, and private or corporate. As a public entity, it exercises by delegation, a part of the sovereignty of the state and is an agent of the state for the government of its territory and inhabitants. In this capacity, it performs functions such as the preservation of peace, the establishment of schools, the construction and maintenance of local roads, bridges, parks and public buildings, the provision of basic health care and hospital services, and the delivery of agricultural extension services. As a private entity, a local government acts much like a business corporation performing functions which are not strictly governmental or political such as the establishment of markets and slaughterhouses, and the operation of waterworks, transportation and telephone systems (Rodriguez, 1984).

Each local government level plays a different role in the performance of these functions. The *barangay* is supposed to serve as the primary planning and implementing unit of government programs and as a forum for the articulation of the problems and needs of the people. The municipality and city are designed to serve as general–purpose governments for the coordination and delivery of basic, direct and regular services. The province is supposed to assume area–wide and more specialised functions which are likely to benefit from economies of scale.

The powers of local government are primarily vested in their elected officials. These consist of the *punong barangay* and the *sangguniang barangay* members for the *barangay*; the mayor, vice–mayor and *sangguniang bayan* (municipal council) members for the municipality; the mayor, vice–mayor and *sangguniang panglungsod* (city

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[2]This includes Metro Manila.
[3]See chapter 8.

council) members for the city; and the governor, vice–governor and *sangguniang panlalawigan* (provincial council) members for the province. The *punong barangay*, mayor and governor are the chief executives. The *sanggunians* are the legislative bodies and are composed of regular elected and *ex officio* members.

The President of the Philippines exercises general supervision over local government units to ensure that they act within the scope of their prescribed powers and functions. With the assistance of the Department of Interior and Local Government, such supervisory authority is exercised directly over provinces, highly urbanised cities and independent component cities; through the province with respect to component cities and municipalities; and through the city and municipality with respect to *barangays*.

Government decentralisation

The Philippines has espoused the decentralisation of government both as a policy objective and as a means of attaining its development goals. Government decentralisation efforts can be categorised into two major types. The first is administrative decentralisation (or deconcentration) which involves the delegation of certain functions of the central government to its field offices and agencies. The second is political decentralisation (or devolution) and is akin to local autonomy. Essentially, this involves the transfer of power and authority for the performance of certain functions from the central government to local government units (Oamar and Rivera, 1975; Brillantes, 1987).

Administrative decentralisation. Administrative decentralisation mostly consists of the deconcentration of the national planning and administration function to the regional level (Brillantes, 1987). Planning is an integral aspect of public finance in the country. The government operates on the basis of a five–year medium term development plan which contains general macroeconomic targets such as gross domestic product growth rate, employment, balance of payments, and the rate of inflation. It also contains a blueprint of the programs and policies of the sectoral

departments and agencies of the national government for the different regions. The plan is updated annually and serves as a basis for formulation of the national budget.

A regional approach to planning has been given emphasis to address the problem of uneven regional growth, alleviate poverty, and develop public programs and projects which are more sensitive and suitable to local development needs (Nuqui, 1992). The Integrated Reorganisation Plan (Presidential Decree No. 1, series of 1972) under the Marcos administration created a regional development council in each region (except for the national capital region) to coordinate planning, implementation and monitoring of programs and projects of the national government in the region. The regional development council was to be an extension of the Board of the National Economic Development Authority (Lamberte, Manasan and Llanto, 1993). Its major responsibility was to undertake a 'comprehensive and detailed survey of the resources and potential of the region' and to prepare on the basis of such survey 'long range and annual plans within the guidelines set by the National Economic and Development Authority'. The members of the regional development council initially consisted of representatives from the regional offices of the national government with sectoral functions, and elected local government officials (Brillantes, 1987). The regional office of the National Economic Development Authority provided technical support and acted as the secretariat.

To facilitate local consultation and participation, local development councils were created in each local government unit. The local development councils, which parallel the composition of the regional development councils, are charged with assisting the local governments to formulate their respective plans. These are integrated to come up with a regional development plan and strategy.

The planning process envisages a 'bottom–up' approach that begins at the *barangay* level with the conceptualisation of the *barangay* development plans through the *barangay* development councils. The plans, containing a list of project proposals, are then forwarded to municipal development councils for evaluation and incorporation into the municipal development plan and investment program. The same process occurs in the cities and provinces. The approved development plans of provinces and highly

urbanised cities are submitted to the regional development councils, which consider them for integration into the regional development plans (Hubbell, et al., 1989).

Regional development plans are enriched by the integrated area development projects, which used to be coordinated by the National Council on Integrated Area Development. The integrated area development projects emphasise multi–sectoral intervention focused on a specific geographic area within a region. The targeted areas are depressed areas with high development potential. The major objectives are to spur economic development in these areas and to promote equitable distribution of its gains. Each integrated area development project office has corporate powers and has the authority to call for assistance on any national government agency and local government in the area, although it has no control or power over them (Nuqui, 1992; De Guzman and Padilla, 1985).

The regional development plans are forwarded to the National Economic and Development Authority which is the primary agency of the government for planning. .The National Economic Development Authority evaluates and integrates them to formulate the regional development and physical planning framework which is part of the medium term development plan. The lists of proposed projects contained in the regional development plans serve as the bases for the five–year regional development investment program. The projects are prioritised yearly to come up with an annual investment program which is linked to the national budget (Lamberte, Manasan and Llanto, 1993).

To reinforce regional planning, a regional budgeting system was instituted with the issuance of Letter of Instructions 447 and 448 in 1976. All major national government implementing agencies are required to have a breakdown of their budgets by region. Each agency's regional office prepares a budget proposal based on the regional development investment program, which is presented and justified before the respective regional development councils. The proposed regional budgets are then submitted to their respective central offices, where they are evaluated and integrated to come up with the department or agency budgets. The Department of Budget and Management then holds budget hearings to evaluate and prioritise the agencies'

proposed budgets with respect to the aggregate revenue, expenditure and debt ceilings determined and approved by the Development Budget Coordination Committee[4] and the President. After each agency's expenditure ceiling is determined, each agency makes the necessary changes and realignments on its budget. This is submitted to the Department of Budget and Management which consolidates all budgets and submits them to the President and the Cabinet. The President then prepares the national budget and submits it to Congress in the form a General Appropriations Bill. The Bill is discussed in Congress and an Appropriations Act, which serves as the basis for government expenditure, is passed (Laya, 1979; Lamberte, Manasan and Llanto, 1993).

The decentralised planning process has not yet developed as envisioned. Regional offices which were established supposedly to deconcentrate national powers and authority merely serve as extensions of the central government (Republic of the Philippines, 1987). The central offices still exercise strong influence in the prioritisation of regional projects and their funding allocation and releases. Though regionalised, the budgeting system is in essence more agency–based than area–based. The regional offices are forced to adopt the projects that are regarded as having priority by their central offices rather than those favoured at the regional level (Lamberte, Manasan and Llanto, 1993). The regional development councils perform largely coordinating functions since they have no line of authority over their members (Brillantes, 1987).

The local governments do not take the planning process seriously, and simply submit to the regional development councils a 'wish list' of projects without any indication of their priorities. A major reason is that the local government units have very limited financial resources and there is no assurance that the projects they propose to the regional development council will be approved. The transaction costs involved in following up their requests are high (Hubbell, et al., 1989).

The Aquino administration (1986–1992) committed itself to greater decentralisation. The government was reorganised and the Administrative Code of 1987 (Executive Order No. 292, series of 1987) was passed with the objective of improving

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[4]The Development Budget Coordination Committee consists of the National Economic Development Authority Director–General, the Executive Secretary, and the Secretaries of Budget and Management, and Finance.

government responsiveness through the decentralisation of powers, resources and capabilities. The Code declares as policy that:

> The functions of the different Departments shall be decentralized in order to reduce red tape, free central officials from administrative details concerning field operations, and relieve them from unnecessary involvement in routine and local matters. Adequate authority shall be delegated to subordinate officials. Administrative decisions and actions shall, as much as feasible, be at the level closes to the public (Executive Order No. 292, Administrative Code of 1987, Book IV, Chapter 1, Section 3) .

The modified disbursement scheme (Memorandum Order No. 279, series of 1990) allowing direct releases of funds to regional and local agencies of the national government was introduced to overcome these problems. It allowed regional and local offices to directly submit disbursement and liquidation reports to the Department of Budget and Management, thus enabling faster flows of resources to the regions (Lamberte, Manasan and Llanto, 1993).

The President appointed Cabinet Officers for Regional Development and created the Cabinet Action Committee on Decentralisation. Aside from their regular duties as cabinet members, the Cabinet Officers for Regional Development were given the task of articulating the concern of their respective region in the cabinet, and assisting the President in the speedy resolution of problems in the region. The Cabinet Action Committee, which consisted of the Secretaries of Budget and Management, Local Government and Finance, was to identify the powers and responsibilities of central government agencies that could be delegated to their regional offices and those which could be devolved to local governments (Yoingco and Guevarra, 1989).

A pilot decentralisation project, an experiment in decentralising national government operations, was carried out in 1988 in five provinces. An expected output of the project is a memorandum of agreement identifying and delegating certain functions to local governments. However, only two provinces managed to come up with a memorandum of agreements. The experience from the pilot projects shows the importance of clear guidelines for the assignment of functions between national

government agencies and local governments, which were unfortunately not totally developed in the pilot provinces. Congress has also an important role in the formulation and implementation of decentralisation (Lamberte, Manasan and Llanto, 1993; Yoingco, 1989).

Executive Order 308 (1987), as amended by Executive Order 366 (1989), and Executive Order 319 (1988) reorganised the regional and local development councils respectively, and instituted private sector participation by including representatives of non–government organisations in their membership. Executive Order 366 (1989) endorsed the participation of Members of Congress in the various aspects of regional and local development through their membership in the regional development assemblies and the local development councils. This allowed better coordination in the planning and implementation of regional and local projects, particularly with regard to the Countryside Development Fund which is allocated by congressional districts.

The regional development fund was reinstituted in 1988 to support the expansion of powers and functions of regional development councils and to finance the operating requirements and capital outlays of regional and local development projects. The regional development fund was set up initially in the early 1970s under the annual General Appropriations Act. It was designed to influence local government budgeting and encourage local government revenue efforts and inter–local government coordination by providing counterpart funding to projects whose benefits extended beyond the boundary of a local government unit. However, it was soon abolished because of low utilisation which reflected both poor local tax collections and greater preference of local government units for purely local projects (Caragué, 1991; Nuqui, 1992). The local governments have very limited resources which are mostly allocated to current expenditures, particularly general public services which have mostly to do with running local governments.[5]

The Medium–term Philippine Development Plan emphasised the importance of strengthening the linkages between sectoral and regional investment planning and programming. To this end, the President issued Memorandum Order No. 295 (series of

[5]This is discussed in chapter 7.

1990) directing the adoption of a synchronised planning, programming and budgeting system designed to properly coordinate these activities at the sub-national and national levels through a careful definition of objectives, procedures and schedules, and establishment of an appropriate institutional network. Among the key features of the system are (Diokno, 1991):

1) Proper sequencing and timing of planning, programming and budgeting in accordance with the relationship between their inputs and outputs—the preparation and updating of development plans, and investment programming are conducted two years prior to their implementation, and budgeting one year prior to implementation;
2) Clear guidelines establish direct linkages and consistency between national and regional plans, investment programs and budgets;
3) Greater authority to the regional development councils and agency regional offices—regional agency budget proposals approved by the regional development councils are integrated without modification into the central agency budget proposals provided that the former are within the regional budget ceilings; and
4) Installation of a performance evaluation system linked to the planning, programming and budgeting system.

Note that the regional plans, investment programs and budgets include only agency regional programs and projects, and local government proposed projects which are to be funded or implemented by national line agencies. Local government programs and projects which are to be financed out of local funds[6] are not incorporated in the regional development investment program.

Political decentralisation. Political decentralisation has been carried out mostly through legislation. In 1959, the Local Autonomy Act broadened the powers of local governments and lessened national control over local actions, particularly in planning,

[6]Local funds is defined as those derived by the local governments from local taxes and fees, internal revenue allotment and other shares, domestic and foreign grants, and domestic loans.

budgeting and implementing public works projects. The Decentralisation Act of 1967 devolved additional powers to local governments and remove certain restrictions in the local fund structure to allow more rational planning of resources. Provinces and cities were granted the authority to undertake their own agricultural extension and rural health services and allowed to retain the amount they contributed to the national government for these purposes. The national government, however, retained the prerogative of programming these functions and extending technical and financial assistance (Oamar and Rivera, 1975).

The local governments remained weak in spite of these laws. Williams (1981) attributed their weakness to four major factors. First, the capacity of local governments to mobilise resources to finance their activities was impaired not only by limited taxing powers, but also by narrow local tax bases. The import–substitution strategy of the national government, which was biased against rural areas restricted their growth. Second, decentralisation conflicted with the interest of congressmen who shared the same constituency with local government officials. Given the patronage system of politics in the Philippines, it was in the congressmen's interest that the local officials remained weak. Thus, legislation devolving greater powers to local governments was always short of expectations. Third, the devolution of powers to local governments also involved complex issues and problems because of their varying sizes and levels of development. Finally, decentralisation posed a threat to the bureaucracy because it would reduce its power and influence.

The 1973 Constitution was ratified during the Martial Law period. For the first time local government units were constitutionally recognised as political units and were guaranteed autonomy. The Constitution guaranteed the power of local government to create its own sources of revenue and levy taxes subject to certain limitation as may be provided by law. It also provided for the enactment of a local government code.

Presidential Decree No. 231 (1973) also known as the Local Tax Code was passed. However, except for transferring a few minor national taxes to local governments, the Local Tax Code only consolidated the taxing powers of local

governments that were already provided in various laws.[7] The local governments were denied access to the major revenue bases, such as taxes on income and profits, goods and services, and international trade, that were assigned exclusively to the national government.

The Local Government Code (Batas Pambansa Blg. 337) was passed by the National Assembly in 1983. It provided the criteria for the creation of local government units and defined their powers and responsibilities. It also defined the relationship between central agencies and local government units. As provided in the Code, national agencies' supervision over local governments was to be confined to the setting of standards and guidelines. Various provisions, however, allowed them to act on local matters such as education, justice and local government audits. The Code also directed national agencies to exercise technical supervision over local governments, and to secure their participation in national programs and projects that would be implemented in the local units.

Political decentralisation remained largely rhetorical. The authoritarian administration consolidated power in the national government as a way of entrenching its rule (De Guzman, 1988). The President continued to exercise legislative powers which included the power to create, merge, or abolish local governments. Police, jail and fire services which used to be purely local functions were centralised and placed under the control of the Philippine Constabulary (De Guzman, Reforma and Panganiban, 1988). Local government discretion over budgets was reduced by several restrictions and obligations mandated by the national government. Local government budgets had to be reviewed by at least four national government agencies (Ministry of Finance, Ministry of Budget, Ministry of Local Government and Community Development, Commission on Audit) for consistency with national government guidelines. The local treasurers and assessors were appointed by the national government (Bahl and Schroeder, 1983a).

In general, the national–local government relations in the sharing of power, authority and responsibilities were not conducive to the success of decentralisation

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[7]Chapter 6 discusses in detail the revenue raising powers of local governments.

policies. Administrative decentralisation and political decentralisation tended to contradict rather than reinforce each other. The existence of field offices of national government departments and agencies performing functions similar to local governments caused confusion and conflict in the lines of responsibility and accountability. This inhibited the development of local government capacity, and resulted in disjointed and inefficient provision of government services (De Guzman, 1988).

The Aquino administration endeavoured to resolve the impasse in the duplication of functions among different levels of government and promote local government autonomy. Several laws were passed by Congress in accordance with the provisions of the 1987 Constitution which adopted local autonomy as a principle and policy of the state. These laws included Republic Act No. 6734 (1989) and Republic Act No. 6766 (1989) also known as the Organic Act for the Autonomous Region of Muslim Mindanao and the Organic Act for the Cordillera Autonomous Region. These laws defined the basic structure of government for these regions and devolved to them significant fiscal powers and responsibilities, except in matters of defence and security which remained the sole responsibility of the national government. The President exercises general supervision over these regions.

The most significant law passed by Congress was Republic Act No. 7160 (otherwise known as the Local Government Code of 1991) which took effect in 1992. The most important provision of the Act was the devolution of certain functions, responsibilities and regulatory powers from national government agencies to local governments. The new local government code specifically assigned to each local government level a set of basic services and facilities that they have to provide in connection with the devolved functions. The personnel, property and equipment of the national government agencies which used to carry out these functions were transferred to the respective local government units. As a general principle the national government agencies would mainly be responsible for policy formulation, program development, standard setting, technical assistance and monitoring. The local government units would be responsible for the implementation and provision of these services.

Table 3.2 **Central government services and facilities devolved to local governments, new Local Government Code, Philippines, 1991**

Central government agency	Devolved services/facilities
Department of Agriculture	Agricultural extension and on–site research
Department of Environment and Natural Resources	Implementation of community–based projects and enforcement of environmental protection laws
Department of Health	Delivery of field health services, hospital services and other tertiary health services
Department of Public Works and Highways	Public works and infrastructure funded out of local funds
Department of Education, Culture and Sports	Construction and maintenance of school buildings
Department of Social Welfare and Development	Delivery of social welfare services
Department of Tourism	Tourism facilities and tourism promotion/development
Department of Transportation and Communication	Inter–municipal telecommunication services for provinces

Source: Lim, J., 1992. 'The macro aspect and the political economy of decentralisation' in Lim, J. and Nozawa, K. (eds.), 1992. *Decentralisation and Economic Development in the Philippines*, Institute of Developing Economies, Tokyo.

Issues and problems

The success of decentralisation hinges on several factors. A major pitfall of previous decentralisation efforts was the failure to match the responsibilities and functions assigned to local governments with an equivalent increase in their revenue–raising powers. The Local Government Code of 1991 also did not add much to the revenue–raising powers of local governments except for the transfer of a few minor taxes and the higher rate ceilings prescribed on local taxes. To bridge the gap, the Code provided for a higher share of local governments in the internal revenue allotment. The dependence of local governments on central government transfers, however, still undermined local government autonomy.

It is also important to consider whether the existing highly fragmented local government structure with very many small barangays and municipalities that are hardly viable is conducive to decentralisation. Previous decentralisation efforts showed that

most of these small units were hardly capable of undertaking the services assigned to them. Thus, it seemed unwise to assign additional political and administrative powers to these local government units (De Guzman and Padilla, 1985). The fragmented local government structure also creates problems for administration and coordination.

Closely related to the issue of local government fragmentation, is the highly uneven financial, technical and administrative capacity of local government units. Neither the allocation of development funds in the planning, programming and budgeting process nor the allocation of internal revenue allotment in the local government code, addresses the varying capacities of the different regions and local government units. Decentralisation is likely to result in greater inequity if nothing is done about this.

Summary

The Philippines is a unitary state with a multi-tiered government system consisting of the national government and the different local government levels, namely: province, city, municipality and barangay. Each government level is headed by officials directly elected by the people. The national government, as the highest policy making body, defines the system of intergovernmental fiscal relations which include the assignment of revenue raising powers and expenditure functions, and the concomitant intergovernmental transfers. Decentralisation, both in administrative and political terms, has been a major policy direction of the government. Administratively, this consists of the deconcentration of the national government planning, budgeting and administration functions to its regional offices. Politically, this involves the transfer from the national government to local government units of responsibility for the performance of certain functions and authority over certain revenue raising activities.

Decentralisation has not been without problems. Regional offices which were established to deconcentrate national government powers have merely served as extension offices. The central offices still exercise strong influence in the planning, and prioritisation of regional projects and their funding allocation and releases, which discourages meaningful participation of the local governments. The revenue raising powers assigned to local government units have not also been commensurate to their

assigned expenditure functions. As such, the local governments are very dependent on central government transfers which tend to undermine local autonomy. The highly fragmented local government structure also militates against decentralisation. The existence of numerous and small local government units, many of which are lacking in technical capabilities, makes administration and coordination problematic. It is also partly to blame for widespread disparities in fiscal capacities among local government units which, unless addressed by a proper system of intergovernmental transfers, are likely to be exacerbated by the decentralisation reforms.

Appendix 3.1 **Regions and their component provinces after the Organic Acts, Philippines, 1991**

National Capital Region
composed of cities and municipalities
in Metro Manila

Region I - Ilocos
Ilocos Norte
Ilocos Sur
La Union
Pangasinan

Region II - Cagayan Valley
Batanes
Cagayan
Isabela
Nueva Viscaya
Quirino

Cordillera Autonomous Region
Abra
Benguet
Mountain Province
Ifugao
Kalinga–Apayao

Region III – Central Luzon
Bataan
Bulacan
Nueva Ecija
Pampanga
Tarlac
Zamboanga

Region IV – Southern Luzon
Aurora
Batangas
Cavite
Laguna
Marinduque
Occidental Mindoro
Oriental Mindoro
Palawan
Quezon
Rizal
Romblon

Region V – Bicol
Albay
Camarines Norte
Camarines Sur
Catanduanes
Masbate
Sorsogon

Region VI – Western Visayas
Aklan
Antique
Capiz
Guimaras
Iloilo
Negros Occidental

Region VII – Central Visayas
Bohol
Cebu
Negros Oriental
Siquijor

Region VIII – Eastern Visayas
Biliran
Eastern Samar
Leyte
Northern Samar
Western Samar
Southern Leyte

Region IX – Western Mindanao
Basilan
Zamboanga del Norte
Zamboanga del Sur

Region X – Northern Mindanao
Agusan del Norte
Agusan del Sur
Bukidnon
Camiguin
Misamis Occidental
Misamis Oriental
Surigao del Norte

Region XI – Southern Mindanao
Davao del Norte
Davao Oriental
Davao del Sur
South Cotabato
Surigao del Sur

Region XII – Central Mindanao
North Cotabato
Lanao del Norte
Sultan Kudarat

Autonomous Region of Muslim Mindanao
Lanao del Sur[1]
Maguindanao[1]
Sulu[2]
Tawi–tawi[2]

Note: [1]Formerly a part of Region XII
[2]Formerly a part of Region IX

Source: Department of the Interior and Local Government

4
Theoretical background

Introduction

Vertical fiscal imbalances and horizontal fiscal imbalances are major issues which invariably surface in the discussion of intergovernmental fiscal relations in multi–level government systems. Vertical fiscal imbalance refers to the mismatch between expenditure requirements and revenue sources of governments at all 'levels'. Horizontal fiscal imbalance refers to inequality in expenditure needs and revenue capacities of governments at the same level. The presence of these problems and attempts by governments to address them, either through assignment and reassignment of tax and expenditure functions or through intergovernmental fiscal transfers, impact heavily on the provision and financing of public services in particular and the operation of the economy in general.

The issues of vertical and horizontal fiscal imbalances have gained currency in many countries in connection with decentralisation. Theoretically, these issues are not relevant in centralised governments where sub–national governments are mere administrative agents of the central government, because in effect there is only one government. However, the current thrust of policies in many countries is to decentralise the delivery of government services and foster local government autonomy.

Why Decentralisation?

Improving Correspondence Between the Demand for, and Supply of, Public Goods. One of the most commonly cited reasons for support for a decentralised government structure stems from differences in the degree of public goods' 'publicness'. Technologically determined, spatially differentiated 'benefit areas' are associated with different public goods. Some public goods are national, conferring benefits on all citizens, while some are local, conferring benefits only on a subsector of the society. The argument for decentralisation is based primarily on local public goods. Specifically, it is argued that if the desired levels and mixes of local public goods differ between

geographical areas (that is, there is greater homogeneity of preferences within than between areas), then decentralised service provision by sub–national governments will result in greater efficiency. Sub–national governments are considered to be more responsive to local preferences than central governments. Local provision allows governments to cater better to the tastes and needs of local residents by differentiating the quantity, quality and mix of public goods. Central provision often results in a tendency towards undesirable uniformity. Uniform provision of public services, according to Oates (1972), is likely to cause welfare loss—that is, overprovision in some areas and underprovision in others.

The literature provides two major explanations for this argument. Both are based on the difficulty of obtaining information on preferences for public goods because of problems of exclusion and jointness of consumption. It is not in the individuals' interest to reveal their preferences for public goods if they will be charged on the basis of their revealed benefits.

According to the first explanation, governments are imperfectly informed of citizens' preferences, and the more distant a government is from its constituents, the less well informed it is likely to be. Difficulty in obtaining information about people's preferences could lead to inefficiency in the provision of goods and services. Local governments which are closer to the people, therefore, are likely to be more efficient than central governments. They are in a better position to know the needs and preferences of their constituents (Walsh, 1992).

The second explanation is based on the 'voting with the feet' Tiebout model (1956). The Tiebout model is concerned primarily with the mechanism by which consumer–voters register their preferences for public goods. The model shows that patterns of expenditure for local public goods, reflecting the preferences of the population, are more likely to occur through local provision than national provision of these goods. Drawing an analogy to the consumer shopping trip to the market place to buy private goods at given prices, Tiebout suggests that the movement of voter–taxpayers between local jurisdictions to ones which best match their preferences for public services and corresponding tax liabilities can be viewed as the mechanism by

which preferences for public goods are revealed. This brings out a major difference between central and local provision of public goods. According to Tiebout (1956, p.418):

> ... at the central level the preferences of the consumer–voter are given, and the government tries to adjust to the pattern of these preferences, whereas, at the local level, various governments have their revenue and expenditure patterns more or less set. Given these revenue and expenditure patterns, the consumer–voter moves to that community whose local government best satisfies his set of preferences. The greater the number of communities and the greater the variance among them, the closer the consumer will come to fully realising his preference position.

Note that in the Tiebout model, the focus is mainly on the consumption side. The consumer–voter chooses between alternative jurisdictions but not strictly competitive jurisdictions. Local governments do not necessarily attempt to adapt to the preferences of consumer–voters. This is understandable considering that Tiebout is primarily concerned with the mechanism by which preferences for public goods are revealed. The problem, however, is that the model has to depend on a very large number of local jurisdictions and unrestrained and costless mobility of citizens to achieve efficiency or optimality.

Another argument for decentralisation , in contrast, focuses on the supply side of public goods.

Enhanced Intergovernmental Competition. Decentralisation could promote greater efficiency in public resource allocation through intergovernmental competition that results in the development and subsequent diffusion of innovative government policies. In contrast to the Tiebout model, which depicts intergovernmental competition hinging on the mobility of people across different local jurisdictions, Breton (1987) considers a Schumpeterian concept of entrepreneurial competition, that is, competition among governments in the development of innovative policies that might satisfy the demands or preferences of their citizen–voters. In a multi–tier government system, each citizen–voter can be thought of as simultaneously belonging to more than one governmental jurisdiction; an individual is simultaneously a voter for the central and local governments. This makes governments at different levels potential competitors for the

development of policies that could earn votes for them. Policies that prove successful can then serve as models for other governments.

Constraining Abuses of Taxing Powers. In a somewhat different view of government, Brennan and Buchanan (1980) suggest another reason for decentralisation resulting in more efficient resource allocation. They postulate centralised government as a Leviathan—that is, a monolithic organisation composed of individuals seeking to maximise their utility by maximising the amount of 'surplus' revenues available for their discretionary use. They do not claim that governments inevitably or invariably act in this way, but this modelling assumption provides a 'worst case' possibility against which fiscal constitutions need to be designed to protect the interests of citizen–voters. With this view of government, Brennan and Buchanan suggest decentralisation as one way of constraining governments from abusing their taxing powers which involve the transfer of economic resources from the private sector to the government. Decentralisation fosters intergovernmental competition (similarly to the Tiebout model), which forces governments to exercise prudence in their tax and expenditure decisions. Exploitative governments risk diminishing their tax bases with the migration of their citizen–taxpayers or their taxable activities to less exploitative governments, which on the other hand, increase their tax bases. This competition restrains governments in much the same way as the electoral process does.

Greater Fiscal Responsibility. To the extent that it devolves both tax and expenditure powers, decentralisation will promote greater accountability and fiscal responsibility. This is because it results in a closer link between tax and expenditure decisions; it promotes greater transparency as people can more easily associate the taxes they pay with the services governments provide.

Agents for Redistributive Policies. Redistribution is generally regarded as primarily a central government function. Local governments acting independently are not likely to pursue redistributive fiscal policy such as progressive taxation for fear of losing their wealthy residents. However, there is growing recognition that local governments can also make an important contribution to redistribution particularly in the provision of basic social primary goods (or merit goods) whose primary beneficiaries are low income

groups. Local governments are in a better position to identify the target beneficiaries and provide appropriate services. Bird (1990, p.279) noted that whether and how local governments deliver basic services, and how such services are financed, may have more direct impact on the well–being of poor people than many grandiose national policies.

Macro economic Constraints to Decentralisation

While decentralisation augurs well for the promotion of efficiency in the allocation of resources, and to some extent for equitable distribution of income, it can be a hindrance to effective economic stabilisation efforts of the government. Inflation, unemployment, recessions and booms tend to be events of national scope. Thus, the function of economic stabilisation is generally reserved for the national government, which can internalize the benefits and costs of its provision. Independent stabilisation efforts of local governments are likely to be ineffective because of leakages arising from the smallness and openness of local economies (Bomfin and Shah, 1991). Besides, local governments cannot have access to monetary policy which is one of the basic tools of economic stabilization. To grant a local government the power to create money would be tantamount to giving that local government an unlimited claim on the resources of other localities (Oates, 1968), and granting this power to all local governments would lead to uncontrollable inflation.

For the national government to be effective in stabilizing the economy, it needs to have considerable control over taxes, public expenditure and the money supply. Devolving certain taxes and expenditures to local government can possibly undermine the capability of the national government to effectively perform its macroeconomic stabilisation function.

Assignment of Expenditure Functions

The literature provides a strong *a priori* case for decentralisation. However, it is important that decentralisation be understood in the broader context of proper assignment of expenditure functions among levels of government. In this regard, the 'economics of federalism' literature provides guidelines which can be generalised to all

multi–level governments. These guidelines can be categorised under two major approaches which will be referred to as the traditional and new approaches.

Traditional Approach. The traditional approach considers three major factors in the assignment of functions, namely, the benefit area of the public good, jurisdictional spillovers or externalities, and returns to scale in the production of public goods.

(i) Fiscal equivalence. According to Olson (1969), to achieve a Pareto–optimal level of public expenditure, there must be a match between the boundary of government and the benefit area of the public good it provides so that there will be a correspondence between those who receive the benefits of a public good and those who pay for it. This condition, which Olson defines as fiscal equivalence, is also referred to as perfect mapping (Breton, 1965) and perfect correspondence (Oates, 1972).

The basic idea embodied in the fiscal equivalence principle and its alternative formulations, is that all benefits and costs associated with a public good must be considered or internalised in the decision calculus of the governmental jurisdiction responsible for its provision. On the basis of this principle, it is suggested that public goods which are national must be provided by the national government; those which are regional, by regional governments; those which are local, by local governments, and so on.

Note, however, that if internalisation of all benefits and costs associated with public goods is the only consideration, there is no necessary reason why a centralised unitary government will be less efficient than multi–level governments. In other words, by assigning the provision of all public goods to the national government, theoretically there would be zero externalities—all benefits and costs in the provision of any public good are capable of being internalised.

In explaining the rationale for the principle of fiscal equivalence, Olson justifies the importance of sub–national governments by alluding to the mechanism of public good provision in a democratic system with voting by majority rule. For instance, in the case of local public goods which benefit only a sub–sector of the population, provision by national government will result in a less than Pareto–efficient level. This is because the benefits of local public goods are confined to a few groups of individuals while the

costs are likely to be shouldered by the whole population. Olson noted that log–rolling—where minority groups which stand to benefit from local goods and services can trade votes or enter into coalitions to become a majority and have their desired public goods provided—is not enough to correct this inefficiency.

Oates (1972, p. 35) also underscores the importance of local governments in the efficient provision of local goods. In an extension of the fiscal equivalence principle, which he terms 'perfect correspondence', he proposes the decentralisation theorem:[1]

> For a public good—the consumption of which is defined over geographical subsets of the total population, and for which the costs of providing each level of output of the good in each jurisdiction are the same for the central or the respective local government—it will always be more efficient (or at least as efficient) for local government to provide the Pareto–efficient levels of output for their respective jurisdictions than for the central government to provide any specified and uniform level of output across all jurisdictions.

The decentralisation theorem focuses on the possible differences in the desired levels and mix of public goods between geographic areas, and the proclivity of central government for uniform provision.

(ii) Spillover effects. In reality, however, it would be difficult to establish full fiscal equivalence. Each public good is likely to a have a different benefit area or boundary. Hence, there would have to be a governmental jurisdiction for each public good. This is not practicable. Actually, what we have are mainly multi–purpose governments which are responsible for the provision of a number of public goods and services which may not have exactly the same benefit area or span. As a result, spatial externalities and interjurisdictional spillovers, which arise when benefits or costs of public services are received or incurred by non–residents, cannot be entirely ruled out.

Consideration of interjurisdictional spillovers does not alter the basic allocation of functions suggested by the fiscal equivalence principle and the decentralisation theorem. Except for public goods which are national in scope (such as economic stabilisation,

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[1]A corollary to the decentralisation theorem is the subsidiarity principle, in the European Community, which implies that central government intervention in constituent states is not justified unless there are significant cross border spill-over effects (Walsh, 1992).

defence and foreign affairs) and which should be the responsibility of the national government, other public goods should be provided by sub–national governments. The problem of spatial externalities can be corrected through intergovernmental grants or, as Coase (1960) suggested, through negotiation and bargaining among concerned governments designed to internalise all benefit/cost spillovers.

(iii) Economies and diseconomies of scale. The presence of economies or diseconomies of scale in the production of public goods may suggest a different allocation of responsibility than that suggested by either the decentralisation theorem or the principle of fiscal equivalence. For example, if significant economies of scale in the production of certain goods which are not achievable by the independent local governments can be achieved by the central government, then centralisation may be desirable in spite of the localised benefit area or span of the good. Tullock (1969), however, makes an important distinction between production and provision of public goods, suggesting that the presence of economies of scale in the production of public goods may not necessarily imply an allocation of functions that conflicts with the decentralisation theorem or the principle of fiscal equivalence. As Oates (1972) suggests, in some cases, it is possible for local governments to purchase the desired level of public goods from higher–level governments (or another 'encompassing' authority or agency) whose expanded operation permits the realisation of increasing returns to scale. This is actually practised in certain areas in the USA, where small municipalities contract for the bulk of their public services with the county government. Local councils in South Australia similarly apply such a scheme. Different local governments can also work jointly to produce the public goods with increasing returns to scale, and reap for themselves the economies from large–scale production (Walsh, 1992).

In a nutshell, the traditional approach suggests a rather neat, rigid and vertical division of functions among different government levels, which resembles a 'layer cake'. The larger the benefit area of a public good, the higher will be the level of government responsible for its provision (as dictated by the principle of fiscal equivalence). However, the higher the level of government, the more limited is its ability to provide services responsively and efficiently (as suggested by the decentralisation theorem and

the subsidiarity principle). The problem of externalities and interjurisdictional spillovers can be addressed by intergovernmental transfers or negotiation among the governments concerned (Spahn, 1992).

New Approach. The new approach to the assignment of functions is based on the consideration of organisational costs in the provision of public goods which is almost completely ignored in the traditional approach. Breton and Scott (1978) suggest that public goods provision and all governmental functions generally entail 'certain resource–using organisational activities'. In the case of government, they broadly classify these activities into administration, which pertains to all activities which are internal to governments, and coordination, which pertains to all activities between governments. Citizens also engage in organisational activities to make known to the government their preferences for public goods. Again, Breton and Scott broadly classify these activities into two: signalling and mobility. Simply put, the provision of public goods entails organisational costs which include administrative and coordination costs on the part of government, and signalling and mobility costs on the part of citizens.

Breton and Scott then note that the organisational costs vary with the assignment of functions or the structure of government. Under a decentralised government structure, mobility and signalling costs for all citizen–voters are presumably lower; however, coordination and administrative costs to the governments (which are ultimately borne by citizens as taxpayers) are likely to be higher. The appropriate assignment of functions will, therefore, be that which minimises the organisational costs. Breton and Scott recognise that even if the heavy information requirements are not taken into account, the actual assignment of functions may deviate from that suggested by the least–cost government structure, primarily as a result of political factors. In particular, they suggest that where the 'constituent assemblies', which determine the allocation of functions between levels of government, are composed of politically motivated individuals, consideration of organisational costs will influence the outcomes only indirectly, through their effects on citizen–voters and consequently, on the possibility of re–election of politicians.

The new approach is based on the same factors as the traditional approach. Governments and citizen–voters engage in organisational activities in response to varying degrees of 'publicness', interjurisdictional spillovers and externalities, economies and diseconomies of scale that characterise provision of public goods and other government functions. In contrast to the traditional approach, however, simple prescriptions for the assignment of government functions are not provided. On the contrary, there is some indication that the appropriate assignment of functions is not a rigid and exclusive vertical division of powers and responsibilities as suggested by the traditional approach.

In recent years, there has been growing realisation (particularly in federal countries) that a vertical division of powers and responsibilities along functional lines is no longer appropriate for most functions of government:

> Such a division of responsibility must be replaced by a horizontal division along activity or program lines, which recognises the fact that services such as transport, economic development, urban services, education, health and welfare services have national, regional and local dimensions, and cannot be regarded as the sole responsibility of a single level of government if they are to be provided adequately, effectively and equitably (Mathews, 1980, p. 6).

The Economic and Social Commission for Asia and the Pacific, in a study of the government decentralisation reforms in the region came up with a similar observation:

> In conclusion, it needs to be emphasized that decentralization cannot work if viewed as antithetical to centralization. Success in decentralization requires close cooperation and interlinkages between centralization and decentralization. A clear idea of the goals, concrete plans for development, powers and functions are a prerequisite for decentralization to strike roots. But equally important is a sense of partnership among governments at all levels (ESCAP, 1991).

Assignment of Taxing Powers

Additional Costs Imposed by Taxes. The discussion of the merits of decentralisation and the appropriate assignment of functions has assumed that corresponding revenue sources come together with functions or that functional assignment precedes and determines the assignment of taxing powers. The literature

suggests, however, that the assignment of taxing powers in a multi–level government system has efficiency and equity implications which are quite independent of functional assignments. In particular, aside from reducing the purchasing power of individuals, taxes impose other burdens which can be aggravated by inappropriate tax assignment. These other burdens can be classified into: administration and compliance costs incurred by collectors and taxpayers; and the less obvious costs, known as 'excess burdens' which refer to the distorting effects on the economic behaviour of taxpayers (King, 1984).

Governments incur costs in the collection of taxes which are generally referred to as administration costs. These include the costs of assessors, collectors and their offices, the legal costs of dealing with defaulters, etc. Taxpayers also incur costs aside from their tax payments, which are collectively referred to as compliance costs. These include the time spent in completing tax returns and in devising ways of reducing tax payments, tax consultant fees, etc. It is widely believed that administration and compliance costs are subject to economies of scale (King, 1984; Oates, 1972; Breton and Scott, 1978). Administrative complexities and duplication in both assessment and collection can be substantially reduced by centralisation. Uniformity in guidelines and a single taxation office can also facilitate tax compliance.

Two factors figure prominently in the discussion of the 'excess burden' that could result from inappropriate tax assignment, namely: mobility of taxpayers or tax bases, and the possibility of tax exporting by jurisdictions. When taxpayers or tax bases are mobile, the progressivity and variations of tax rates between jurisdictions are limited. Tax rate differentials can serve as stimuli for labour and capital to move to areas where taxes are low, but where their marginal productivities may be lower, thus resulting in inefficient resource allocation. Tax exporting, on the other hand, occurs when taxes levied in one jurisdiction are paid partly by residents of other areas. This usually happens when an area possesses market power in relation to production and pricing of certain commodities. Taxes imposed on local production can be shifted to residents of other jurisdictions through higher prices of the output sold outside of the taxing jurisdiction (Walsh, 1992). Jurisdictions which succeed in tax exporting may not have to shoulder the whole cost of

their public programs and may, as a result, increase them beyond efficient levels at the expense of other jurisdictions (Oates, 1972).

Guidelines for the Assignment of Taxing Powers. Musgrave (1983) suggests the following set of broad guidelines for the assignment of taxing powers in multi–level government system:

1. Highly mobile tax bases (for example, company income) should be assigned to the central government because of the capacity for taxes imposed on them to distort locational choices.
2. Middle and especially lower–level jurisdictions should tax those bases which have low inter–jurisdictional mobility (for example, land and natural resources) to avoid the risk of tax base flight and distorting locational decisions.
3. Tax bases that are highly unequally distributed among sub–jurisdictions (for example, natural resources) should be used centrally to avoid inequities and allocative distortions that may arise from local taxation. This may conflict with rule 2 above; thus, central taxation should apply to an excess base only, while leaving a 'normal' or average base for sub–national use.
4. Progressive taxation, designed to secure redistributional objectives should be allocated to the central government to avoid counter–productive and inefficient location decisions through adverse selection; for example, high income individuals leaving and poor individuals seeking jurisdictions with highly redistributive policies.
5. Taxes suitable for stabilisation policy should be central, while local taxes should be cyclically stable. The underlying principle is that stabilisation is primarily a national government objective. Local stabilisation policies are likely to be ineffective due to heavy leakages arising from the openness of local or regional economies. The central government has to coordinate the use of fiscal stabilisation with other stabilisation tools such as monetary and credit policies.

6. Benefit taxes and user charges in principle, do not create distorting incentives. They may thus be appropriately used at all levels. Pragmatic evidence tends to suggest that they are better employed at lower levels of government, where benefit attribution to particular groups of beneficiaries is more feasible.

In summary, the literature suggests that centralisation of taxing powers is important for effective economic stabilisation policies. It has also some efficiency and equity benefits. Assigning taxes to lower–level governments has some limitations which do not apply to the central government. It seems that only non–mobile tax bases, and benefit and user taxes can be appropriately assigned to lower–level governments. For the central government, there are virtually no restrictions and there can be economies of scale in the collection and administration of most taxes.

Spahn (1992) notes, however, that economies of scale may warrant centralised tax administration, but not the assignment of tax proceeds to the central government. The central government can serve as a tax collection agent for some local taxes. Ideally, this should involve a 'contractual arrangement' in which revenues are collected on behalf of lower–level governments and regarded as their revenues, not those of the central government.

In general, Musgrave's criteria of tax assignment tend to assume that governments can and should act independently in making their taxing decisions when in fact they are interdependent and need to develop institutional arrangements to coordinate their policies. Costly tax competition that could arise from the assignment of highly mobile taxes to lower level governments can be avoided with tax harmonisation policies among governments. Finally, because the assignment of expenditure responsibilities is not considered, Musgrave's criteria of tax assignment ignore the issue of vertical fiscal imbalances (Mathews, 1985a).

Vertical Fiscal Imbalance

Description. Vertical fiscal imbalance refers to a situation in which there is a mismatch between expenditure requirements and revenue capacities of governments at different levels. In many countries, including the Philippines, decentralisation has been carried out mainly in terms of devolution of expenditure functions or service delivery to local governments, without commensurate devolution of revenue–raising powers, thereby accentuating vertical fiscal imbalance. The central government has kept for itself most of the major tax sources, expressly providing for only a few items to be subject to local taxation. Furthermore, local taxation is circumscribed by central government laws on allowable tax rates, exemptions and other controls. In the Philippines, this can be attributed to the unitary government system and the long tradition of centralisation. However, the concentration of revenue sources in the hands of the central government characterises many other countries, even some of those with federal systems.

Causes. As the above discussion suggests, centralisation of taxing powers is not without a theoretical basis. However, it seems that if expenditure and taxing powers are to be assigned according to the major principles that have been discussed, vertical fiscal imbalance is likely to occur. The Musgravian principles of appropriate tax assignments, demand centralisation of the major and most productive taxes, while the decentralisation theorem and the subsidiarity principle suggest local provision or decentralisation of many expenditure functions.

Vertical fiscal balance is not a static concept. The assignment of tax and expenditure powers may initially achieve vertical fiscal balance. But over time the expenditure needs of different government units may change, for example, due to changes in costs of or demand for different public goods and services. The taxes assigned to each government level may also differ and change in yield and elasticities. These factors can easily destroy the initial fiscal balance.

Implications. Vertical fiscal imbalance poses a problem to the achievement of the benefits of decentralisation and the efficient operation of the public sector in general. The claim that there can be no genuine local autonomy without fiscal independence is not without basis. The dependence of local governments on central government financial

assistance makes them highly vulnerable to central government control and tends to undermine effective decision–making by local governments. The conditions prescribed for local government budgeting, and the instability of central government grants in the Philippines attest to this.

Another consequence of local governments' heavy reliance on central grants and the central government's ability to influence local budgeting, is that people learn to depend on the central government and put pressure on it even in matters that are purely of local concern. This tendency is shared and reinforced by local governments which are encouraged to rely on the politically costless central grant funds rather than exploiting their own–source revenue or tax bases which can make them unpopular in their electorate. As a result, the central government is forced to make decisions on local matters about which it has little information. On the other hand, local governments, supported by their electorates, are encouraged to put greater pressure on the central government for more grants and to expand local public goods and services without seriously considering the benefits and costs at the margin of these expenditures.

It may be argued that local residents ultimately bear the burden of central grants through increased central taxes, and therefore, are likely to restrain their demand for public goods and services. To achieve efficiency in public sector decision–making, citizen–taxpayers and their governments should consider the marginal benefits and costs of every public program. Vertical fiscal imbalance and the consequent intergovernmental financial flows, however, tend to weaken the link between taxes paid and government expenditures at a given level of government. This leads to 'fiscal illusion' or misperceptions by voter–taxpayers regarding their share of financing of public spending (Romer and Rosenthal, 1980; Winer, 1983).

Horizontal Fiscal Imbalance

Description. Horizontal fiscal imbalance can exist even when there is vertical fiscal balance. The concept of horizontal fiscal imbalance can perhaps be best understood with reference to its opposite condition—that is, horizontal fiscal balance. Horizontal fiscal balance has been characterised by Mathews (1980, pp. 11–12) as follows:

> ... a situation in which each unit within a particular level of government (e.g. each state in a federal system) has the capacity to provide services at a comparable standard. Horizontal fiscal balance does not imply uniformity of service provision or uniformity of revenue–raising arrangements as between units of government within the same level. It is the capacity of governments to provide comparable services, provided they impose comparable taxes and charges, which need to be equal in a state of horizontal fiscal balance. Two governments with equal fiscal capacity may decide on different levels of service provision and revenue raising, and on different patterns of expenditure and taxation, without causing a departure from horizontal fiscal balance.

Mathews thus makes it clear that horizontal fiscal balance refers to the relative equality of fiscal capacities of government units at the same governmental level and does not imply uniformity in their tax and expenditure policies. This is attuned to the arguments for decentralisation which are based on improved correspondence between the demand for and supply of public services through diversity in tax–expenditure mix and for intergovernmental competition. These arguments assume all government units are equally capable of providing the tax–expenditure packages which voter–taxpayers want. Decentralisation, however, is likely to cause and/or accentuate horizontal fiscal imbalance and, unless proper policies are adopted, horizontal fiscal imbalance is likely to militate against the realisation of the benefits of decentralisation.

Causes. The factors which cause horizontal fiscal imbalance can originate from both the revenue and expenditure sides of government budgets. On the revenue side, government units may have varying levels of fiscal capacities as a result of differences in resources which usually are taken to include the advantages of transportation, ports, climate, soil, location, mineral deposits, as well as possession of a stock of capital goods and the head offices of financial corporations (Scott, 1950).

On the expenditure side, government units may face varying expenditure needs due to different socioeconomic and demographic factors. Some government units, for instance, may face relatively greater spending requirements on education and welfare services because of their population's unduly high ratios of school–age children and the elderly. Expenditure requirements may also vary for different government units because of cost variations in the provision of public goods and services arising from locational and physical differences.

It is thus not difficult to see that decentralisation is likely to accentuate horizontal fiscal imbalance. As more and more expenditure functions are devolved to local governments and as they are made to rely more and more on their own–revenue sources, the variation in their fiscal capacities is accentuated.

Horizontal fiscal imbalance can also be caused or accentuated by central government activities which have uneven effects on different local jurisdictions. Central government expenditures or grants, for example, may be allocated to local units on the principle of 'derivation' (that is, in proportion to the amount of central government revenues generated in the local government unit). On this basis, the rich jurisdictions would be entitled to greater allocations than the poor jurisdictions as a result of their bigger tax bases. Central government taxation may also contribute to horizontal fiscal imbalance. A progressive central government tax structure, for instance, which fails to include all the real income accruing to residents of local governments in its income tax base can exacerbate horizontal fiscal imbalance (Boadway and Flatters, 1982a; Petchey and Walsh, 1993).

Economic policies of the central government may also have uneven geographic or locational effects. The import substitution strategy of the Philippine government in the 1950–60s, for example, benefited the metropolitan areas (particularly Metro Manila) where the import substituting industries were located, at the expense of the agricultural areas.

Political factors also may play a dominant role in the allocation of central government expenditures and grants to local government units. Central government expenditures, and grants to local governments can be used by national politicians to gain the support and votes of local government officials and their constituents. In the electoral process in the Philippines, for instance, 'pork barrel' funds are dangled before local politicians and their constituents as rewards for promised support for national politicians who are seeking re–election. The awareness of national politicians of their power to win votes by preferential disbursement of grants may result in inequitable intergovernmental transfers (that is, unrelated to relative expenditure needs or revenue raising capacities) thus, contributing to horizontal fiscal imbalance.

Implications. Horizontal fiscal imbalance has both equity and efficiency implications. In the absence of any corrective measure, horizontal fiscal imbalance will cause fiscal inequalities among residents of local government units. Those units with high fiscal capacities, in terms of more revenue sources or less expenditure needs, will be in a position to provide their constituents with given levels or standards of services at lower tax rates, and at given tax rates will be able to provide more and better public goods and services. On the other hand, those units with low fiscal capacities will be forced to charge high tax rates, or provide fewer and lower standard goods and services to their constituents. The result is that individuals who are identical in all respects except their place of residence may be levied different tax rates to obtain the same level and standard of public services, or, faced with equal tax payments, may be provided with unequal levels and standards of public services. This violates one of the principal maxims of public finance—that is, horizontal equity or 'equal treatment of equals', which is "the 'central tenet of equity' in all formulations of fiscal justice" (Grewal, Brennan and .Mathews, 1980, pp. 175–176).

Buchanan (1950; p591) notes that equal treatment of 'equals' does not mean uniformity—"neither the tax burdens nor the standard of public service need be equal for 'equals' in any of the states". Satisfaction of the equity criterion requires only that the net fiscal benefits—that is, the difference for individuals between the benefits they receive from government expenditures and the taxes imposed on them to finance these expenditures, or what Buchanan has termed fiscal residuum[2]—should be the same for similarly situated individuals.

Graham (1964, p.134) notes, however, that equalisation of the fiscal residue will not necessarily result in horizontal equity because the welfare of individuals is partly determined by the level of public services they receive, unless public and private goods are perfect substitutes, which is not the case. A more complete application of the horizontal equity principle would require that individuals in different provinces or

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[2]Buchanan (1950) defined the fiscal residuum as the difference between an individual's tax burden and his benefits from public services. Many authors preferred to define the fiscal residuum the other way around, as being equal to benefits minus the burden so that it will have a positive value when benefits exceed the burden. Hence the term, 'net fiscal benefits', is used.

localities with the same income, expenditure, and value of property should incur the same tax burdens and receive the same level of services, wherever they live in the country. But this conflicts with the decentralisation principle which is a basic reason for the existence of local governments. As discussed later, fiscal capacity equalisation transfers provide a means of reconciling this apparent dilemma.

In addition to its impact on equity, horizontal fiscal imbalance also affects efficiency. Differences in net fiscal benefits will serve as an incentive for individuals to move from poor units with low fiscal benefits to the rich jurisdictions with high fiscal benefits. This movement of voter–taxpayers between government units should be contrasted with the mobility described in the Tiebout model. In the latter, the voter–taxpayer mobility is seen as a mechanism through which the preferences of individuals for public goods are revealed, leading to a more efficient provision of these goods. The movement of individuals is in response to differing net fiscal benefits is different. In the latter case, the movement of individuals does not reflect their preferences for public goods, but 'rent–seeking' behaviour. By moving from poor jurisdictions, to rich jurisdictions, individuals can obtain more and better public goods and services with the same tax payments, and/or pay less taxes to obtain the same level and quality of public services.

Buchanan and Wagner (1970) also point out that individuals' migration decisions in response to differences in net fiscal benefits are likely to neglect the external effects of their behaviour on others, which result in inefficiency. The migration of individuals affects both the residents of the jurisdiction of destination (in terms of lower tax price but greater congestion) and the residents of the jurisdiction of origin (in terms of higher tax price but lower congestion). Differences in net fiscal benefits are likely to result in too many people migrating to the wealthier jurisdictions, resulting in the positive tax–side externalities being swamped and reversed by the negative benefit–side externalities of overcrowding. The poor jurisdictions may also be worse off because their tax bases are reduced by the migration of some of their resident tax payers, resulting in higher tax prices or a lower level of services.

The 'rent–seeking' mobility of individuals has wider efficiency implications, since as well as being consumers, they are also factors of production. So far, the discussion of efficiency has been confined mainly to the efficient provision and financing of public goods and services. We now consider another aspect of efficiency—that concerning the allocation of the factors of production.

Based on neoclassical theories, efficiency is obtained when the marginal productivities of similar factors of production are similar in all their alternative employment. If a factor of production can find other employment where its marginal productivity is higher, then national production or income can be increased by the movement of that factor to the alternative employment. In perfectly competitive markets, prices act as the signalling device that enables factors of production to be allocated to their most productive use. In the labour market, for instance, perfectly competitive conditions require that wages equal the value of the marginal product of labour. Thus, the movement of individuals in response to wage differentials ensures efficiency in labour allocation.

In reality, however, wages are not the only consideration in individuals' choices of employment. Usually, the choice of employment involves decisions about where to reside. Individuals make their employment decisions on the basis of comprehensive income (CI), which is defined as market sector income (w) plus the net fiscal benefits (NFB) generated by the actions of governments. Thus, individuals trying to maximise their comprehensive income will migrate across jurisdictions until the following equilibrium condition is established:

$$CI_{1i} = w_{1i} + NFB_{1i} = CI_{2i} = w_{2i} + NFB_{2i} = \ldots = CI_{ni} = w_{ni} + NFB_{ni} \quad (4.1)$$

Equation (4.1) shows that in equilibrium the comprehensive income an individual i expects to receive must be equal in all jurisdictions, otherwise he has an incentive to move. Note that the equality of CIs does not necessarily requires that NFBs be equal. The equilibrium condition requires that if the NFBs are not equal, the market incomes (w) must also be unequal; jurisdictions with low market income must have high net fiscal benefits, and vice–versa.

A rational individual who is maximising his comprehensive income may therefore choose employment where his market income is lower than alternative employment elsewhere, provided, that he gets a higher net fiscal benefit. From the individual's point of view this is optimal behaviour, but from the nation's point of view it is otherwise, because it means that factors of production are no longer located in their most efficient use—that is, where their marginal productivity is highest (Boadway and Flatters, 1982a; 1982b; Courchene, 1984; Petchey and Walsh, 1993).

Scott (1950) argues that differences in net fiscal benefits can help promote efficiency. Because of imperfect labour mobility, differentials in net fiscal benefits may be necessary as an additional incentive for individuals to move to the areas where they are most productive or where their marginal productivity is higher. Thus, attempts to equalise net fiscal benefits through intergovernmental transfers are inefficient.

But Graham (1964, p.140) notes that where there is imperfect mobility of the factors of production, it is unlikely that all labour and capital should move out of a jurisdiction; what is more likely is that some amounts of some kinds of capital and labour should move out and some amounts should move in. The persistence of differences in net fiscal benefits will indiscriminately exert pressure on all factors of production to move out from poor jurisdictions, even if those factors are well located there. It will also inhibit the movement of some factors of production to the poor jurisdictions where they could be more productive. As Bennett (1980) observes, the disparity in net fiscal benefits is likely to accumulate, and result in greater inefficiency.

It is worth noting that the efficiency argument for the neutralisation of net fiscal benefits rests on the assumption of perfect mobility and perfect competition. These conditions are difficult to satisfy in practice. Nonetheless, in the presence of market distortion, neutralisation of net fiscal benefits can be regarded as a second best solution especially when the source of market distortions is unknown. It also has the virtue of not impeding other policies aimed at correcting departures from optimal allocation of resources (Graham, 1964).

Intergovernmental Fiscal Transfers

The problem of fiscal imbalances can be addressed in various ways: reassignment of expenditure functions and/or of taxing powers, credit financing, and intergovernmental fiscal transfers.[3] This study focuses on intergovernmental fiscal transfers.

Intergovernmental fiscal transfers, which may take the form of revenue sharing arrangements and/or grants, are the primary instruments used by government in addressing vertical fiscal imbalance and horizontal fiscal imbalance. They present a way of reconciling the apparent differences in the assignment of expenditure functions and taxing powers among various levels of government, and of promoting a reasonable balance of public service provision and tax burdens in all governmental jurisdictions.

The term revenue sharing has been used in different contexts. It first achieved wide currency in the United States of America where it was used to refer to an appropriation by the federal government of a fixed formula–based amount of general purpose grant to state and local governments. Revenue sharing has been defined in some studies as a formal arrangement between governments to apportion revenue from a common tax base to avoid uncoordinated or competitive exploitation (Mathews, 1980). In this study, revenue sharing is used in the context in which it was firstly used. Grants are used to refer to all other types of central government transfers to local governments.

Normative Aspect. The normative aspect of intergovernmental transfers deals with the problem of designing an appropriate transfer system that promotes efficiency and equity. Mathews (1980) states that there are three major purposes of intergovernmental transfers:[4] (1) responsibility sharing, (2) vertical fiscal adjustment, and (3) horizontal fiscal adjustment. The literature suggests that for each purpose, there is a corresponding type or design of grant program.

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[3]For a discussion of a tax arrangements approach to the problem of vertical fiscal imbalance, see Mathews, 1985a; Collins, 1990; Walsh, 1990; Galligan, Hughes and Walsh (eds.), 1991.

[4]Mathews (1980) used the term 'revenue sharing' (which refers to both tax sharing and grants) instead of 'intergovernmental transfers'. In the Philippines, 'revenue sharing' has a different meaning, hence the term 'intergovernmental transfer' is used to avoid confusion in the subsequent discussion. Note that in the literature, grants, transfers and revenue sharing are used interchangeably.

Briefly, transfers can be generally divided into two major types: specific and general. As the term implies specific purpose transfers have designated uses defined by the grantor. Specific purpose transfers can be either lump sum or matching. A specific lump sum transfer restricts the amount of transfer and the service on which it can be spent. A specific matching transfer depends on how much the recipient spends of its own revenues. Matching transfers can either be closed or open ended. In the former, the matching transfer is given only up to a certain level of expenditure; in the latter, the amount of transfer matches the recipients' expenditure up to the last dollar spent on the aided service. The other major type of transfers, the general purpose transfer, has no restriction on its use. The recipient government can use it for any purpose, even to substitute for its own revenue efforts. Some general purpose transfers, however, have revenue effort conditions to prevent substitution (King, 1984).

Specific purpose transfers are usually associated with responsibility sharing. As noted earlier, it is difficult to establish a perfect correspondence between the benefit span of public goods and the jurisdictional boundary of governments. Interjurisdictional spillovers of benefits or costs are likely to occur. Local governments acting independently are likely to ignore these externalities in their cost–benefit calculation. They are likely to provide these services below (in the case of positive externalities) or above (in the case of negative externalities) optimum levels. To encourage local governments to provide the optimal levels of these services, specific matching transfers, depending on the magnitude of the marginal spillovers, are usually recommended. Unfortunately, although externalities provide a sound basis for specific matching transfers, in practice it is almost impossible to come up with the correct size of transfer or matching requirement (Boadway and Flatters 1982a; Wildasin 1986).

Another case of responsibility sharing wherein specific purpose transfers are usually employed, is the provision of merit goods, for example, low–cost housing and public health care, whereby both central and local governments are likely to be involved. The central government, concerned about establishing a minimum standard of these services across the country, is well advised to provide specific lump sum grants—equivalent to the minimum expenditure requirements—to local governments that are directly responsible for their

provision (Boadway and Wildasin, 1984). Mathews (1980) cites other uses of specific purpose grants in connection with responsibility sharing.

A major objection usually raised regarding specific purpose transfers is that they serve as instruments that enable central government to extend its control (Petchey and Walsh, 1993). The expenditure priorities of the recipient governments are distorted. However, specific purpose transfers are not necessarily centralising. In the case of matching transfers which are tied to the expenditures of the recipient government, the central government also loses control of its budget. Mathews (1980) cites examples of matching transfers becoming in effect a lower–level government device for influencing the level of central government financial assistance. Hence, the objection against specific transfers that they result in unrestrained growth of the public sector.

Other criticisms raised against specific transfers include: inadequate arrangements for policy coordination, the growth of grant lobbies and grantmanship, inadequate accountability, and failure to consider the relative needs and capacities of recipient governments. Aspects of intergovernmental transfers other than design are important. They include machinery which is concerned with fitting the transfer program into budget priorities and the coordination of the policies of the granting and recipient governments (Mathews, 1980).

A general purpose transfer is regarded as most appropriate in restoring or maintaining vertical fiscal balance. General purpose transfers can be spent by the recipient governments for any purpose just like taxes raised from its own revenue sources (Mathews, 1980 and 1983). Some general purpose transfers, however, may have revenue effort conditions which render them less than perfect substitutes for own revenue sources of the recipient government.

In evaluating whether general transfers meet the requirement of vertical fiscal imbalance, two major factors are usually considered. The first is whether the amount of revenue sharing transfer is sufficient to bridge the gap between the expenditure requirement and revenue sources of governments (Bird, 1990); the second is the manner in which the amount of revenue sharing is determined, that is whether by unilateral decision by the granting authority or by joint decision by both granting and recipient

governments (Mathews, 1980 and 1983). When the amount, structure and manner of sharing of intergovernmental transfers are jointly determined by the governments concerned, there may not be a problem of vertical fiscal imbalance. It must be noted that intergovernmental transfer is a second–best solution to the problem of vertical fiscal imbalance. Vertical fiscal imbalance is a problem of non–correspondence in the assignment of revenue–raising and expenditure functions and is best addressed through proper reassignment, or tax sharing arrangements (Mathews, 1983).

Fiscal equalisation transfers provide the main instrument for achieving the third major objective of intergovernmental transfers, that is, horizontal fiscal balance. Fiscal equalisation transfers are usually allocated on the basis of a formula which takes into account the relative revenue capacities and expenditure requirements of governments. The most general fiscal equalisation transfer model may be expressed in the form:[5]

$$A_i = E_i^s - R_i^s \qquad (4.2)$$

The fiscal equalisation transfer (A) of a government i equals the difference between its standardised expenditure (E_i^s) and standardised revenue (R_i^s). The following chapter discusses in detail the process of standardisation. It suffices to note at this point that standardisation is necessary to eliminate or reduce the effects of policy differences, so that equalisation transfers reflect only unavoidable disparities in fiscal capacities of recipient governments (Mathews, 1983).

Mathews (1980, 1983 and 1993) distinguishes two major types of equalisation transfer: fiscal performance equalisation and fiscal capacity equalisation. Fiscal performance equalisation usually takes the form of a specific purpose transfer, and is concerned with equalising services across jurisdictions. Fiscal capacity equalisation transfer, on the other hand, is concerned with equalising the revenues needed to provide a standard level of services. It mainly employs general transfers and it does not constrain recipient governments to provide uniform services. Thus, fiscal capacity equalisation transfers are more attuned to decentralisation.

Musgrave (1961) and Le Grand (1975) consider it proper to include revenue effort factors in the formula for the allocation of transfers. The rationale is that

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[5]See Mathews (1980, 1983) for explicit forms of this general fiscal equalisation model.

governments with little interest in providing services should receive less aid to prevent free riding. A government should not receive compensation if it is not taxing its residents as heavily as other governments. The inclusion of a revenue effort factor in a fiscal equalisation formula, however, represents a departure from pure fiscal capacity equalisation and a loss of degree of freedom on the part of governments being equalised (Mathews, 1983).

Behavioural Responses. The use of different types of transfers is based on theoretical proposition about the behavioural response of recipient government to each type of transfer. Two of the most commonly discussed types of transfers are matching transfers and general transfers. Based on standard indifference curve analysis,[6] it has been theoretically established that matching transfers encourage greater recipient government spending than equal value general transfers. This is illustrated in Figure 1 where the x–axis and the y–axis represent recipient spending on local public services and dollars available for private spending, respectively.[7] With its pre–transfer budget line depicted by AA, the local government chooses to provide Ox_1 level of public services by imposing a tax of Ay_1 to its residents. A matching transfer that meets a fraction of the costs of providing local public services, rotates the budget line of the recipient government to AA'. The reduction in the price of local public services encourages the recipient to increase its consumption of these services to Ox_3. The effect of the matching transfer on the consumption of public services can be decomposed into a 'pure' price effect represented by the distance x_1–x' and an income effect measured by the distance x'–x_3.

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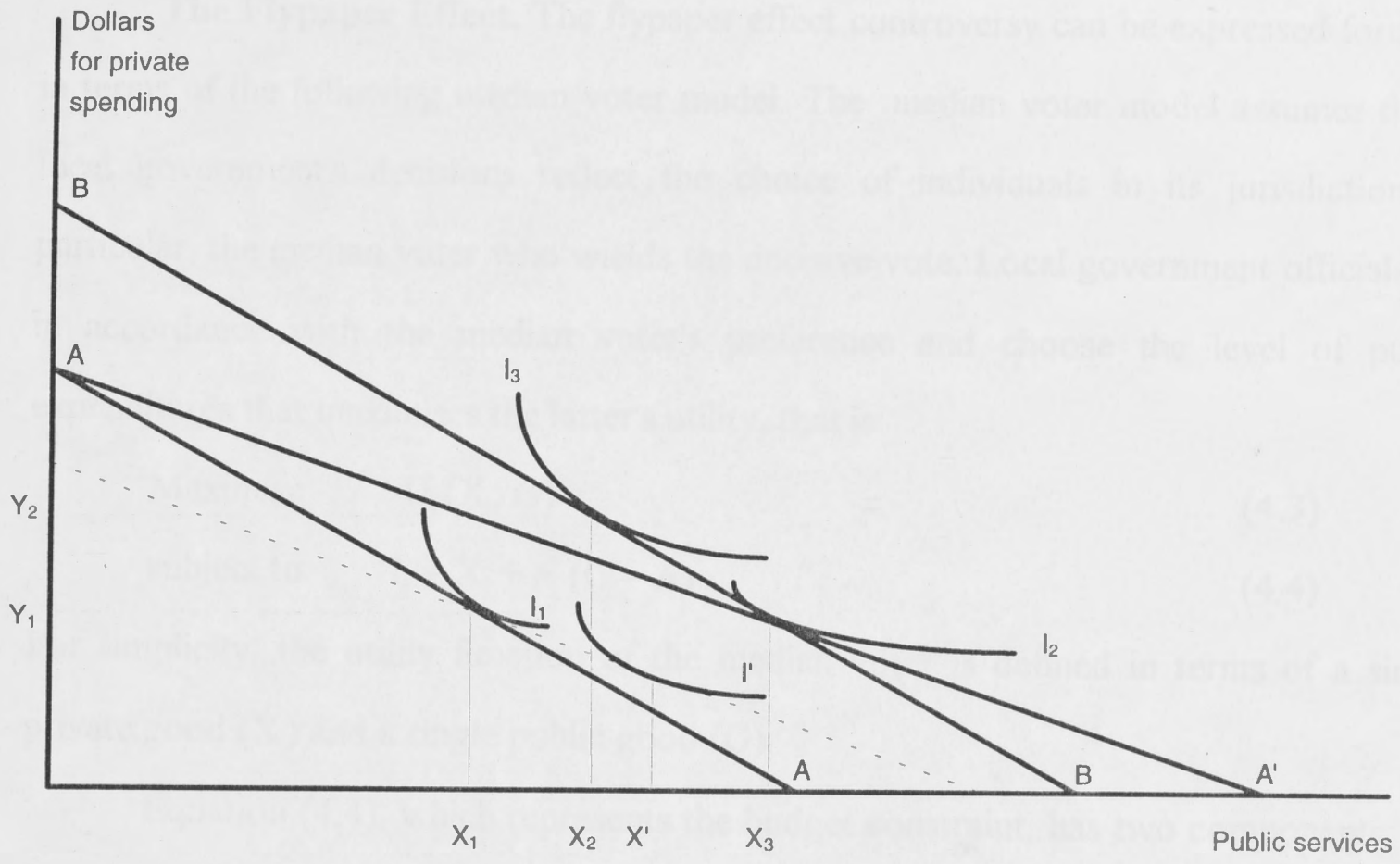
[6]Indifference curves reflect preferences between government expenditures and residual income to be spent on private goods. There is diversity in the indifference curves used. Sometimes they are used to represent the preference function of the authorities of the recipient government (e.g. Wilde, 1968); sometimes the preference function of the median voter (e.g. Bradford and Oates, 1971a; 1971b); and sometimes the preferences of the community (e.g. Scott, 1952; Boadway, 1979).

[7]A government finances its public services from the taxes it collects from its residents. The higher the level of public services, the higher will be its taxes and the lower will be the amount of dollars available for private spending.

Figure 4.1 **General transfer versus matching transfer**



Notes:
1) AA parallel to BB
2) Broken budget line without label parallel to AA'

An equivalent value general transfer, represented by a shift of the budget line to BB, provides the recipient with the resources to increase its consumption of public services to x_3. However, since the general transfer is not restricted, the recipient government can increase its provision of public services by less than the amount of the transfer (represented by x_2) and pass part of it on to its residents in terms of lower taxes or subsidies (that is, more resources for private spending). Thus, the equivalence proposition that a general transfer and an equal increase in private income generate the same effects on recipient government expenditures (Bradford and Oates, 1971a;1971b).

In surveys of empirical studies of the determinants of state and local government expenditures in the United States, Gramlich (1977) and Inman (1979) note that empirical results tend to confirm the proposition that matching transfers result in greater recipient government expenditures. However, the equivalence proposition does not seem to hold. Almost all studies showed that general transfers stimulate greater recipient government

expenditures than an increase in private income does. This phenomenon has come to be known as the flypaper effect.

The Flypaper Effect. The flypaper effect controversy can be expressed formally in terms of the following median voter model. The median voter model assumes that a local government's decisions reflect the choice of individuals in its jurisdiction, in particular, the median voter who wields the decisive vote. Local government officials act in accordance with the median voter's preference and choose the level of public expenditures that maximises the latter's utility, that is:

$$\text{Maximise} \quad U_i(X_i, G) \tag{4.3}$$

$$\text{subject to} \quad I_i = X_i + h_i(G - A) \tag{4.4}$$

For simplicity, the utility function of the median voter is defined in terms of a single private good (X_i) and a single public good (G).

Equation (4.4), which represents the budget constraint, has two components: (1) the median voter's budget constraint, and (2) the local government's budget constraint. The former requires that the median voter's income (I_i) equals his consumption of the private good (X_i) whose price is assumed to be unity plus his fixed share (h_i) of local taxes (T):

$$I_i = X_i + h_iT \tag{4.5}$$

The latter constraint requires that local government expenditures (G) equal local taxes (T) plus the general transfer (A). Thus,

$$G = T + A \tag{4.6}$$

Solving equation (4.6) for T, and substituting this into equation (4.5) yields the budget constraint in equation (2).

In terms of the utility maximisation model spelled out in equations (4.3) and (4.4), the equivalence proposition can be formally expressed as:

$$dG/dA = h_i(dG/dI_i) \tag{4.7}$$

while empirical results which yield the flypaper effect suggest that:

$$dG/dA > h_i(dG/dI_i) \tag{4.8}$$

Several explanations have been advanced to explain the flypaper effect and improve on the theory of behavioural response of governments to transfers. One

explanation attributes the flypaper effect to a fiscal illusion when voter–tax payers equate the price of local public services to their average cost instead of their marginal cost.[8] Another explanation concerns the redistribution of income caused by the system of transfers (Fisher, 1982). Noting the limitations of these explanations, others have sought to explain the flypaper effect phenomenon in terms of institutional characteristics and/or bureaucratic behaviour (Romer and Rosenthal, 1980, Wyckoff 1988). Others dismiss the theoretical proposition of differences between types of transfers and recipient government expenditure behaviour altogether, suggesting that other more implicit conditions (political, institutional, etc.) governing intergovernmental transfers can affect the level and pattern of the recipient's expenditure (Brennan and Pincus, 1990).

The flypaper effect controversy may be a case of 'much ado about nothing' . In the median voter model presented earlier, it was assumed that the voters' tax shares (h_i's) are fixed. This is a rather strong and limiting assumption, the result of which is the equivalence proposition which has been rejected by empirical evidence. A more realistic assumption would be to regard an individual's tax share as a function of his income, that is, $h_i = h_i(I_i)$.

By assuming that tax share is a function of income, the median voter model yields the following comparative statics result:[9]

$$dG/dA = h_i(dG/dI_i) + [Q]\,(dh_i/dI_i) \qquad (4.9)$$

where [Q] represents a complex term whose value is shown to be positive (See Appendix 4.1). Equation (4.9) reconciles the equivalence proposition of the original median voter model and the flypaper effect observed in empirical studies. The equivalence proposition and the flypaper effect are two cases of equation (4.9). The former assumes that tax shares are fixed ($dh_i/dI_i = 0$) hence, $dG/dA = h_i(dG/dI_i)$. On the other hand, the latter implies a progressive tax structure ($dh_i/dI_i > 0$) hence, $dG/dA > h_i(dG/dI_i)$.

Under a progressive tax structure, an increase in private income would stimulate a smaller increase in public expenditure than an equivalent transfer. This is because an increase in income results in a higher tax share or a higher price of the public good, thus

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[8]This explanation, attributed to Oates, is cited in Wyckoff, 1991; Schwallie, 1989; King, 1984 and Fisher, 1982.

[9]The derivation of this result is shown in the Appendix 4.1.

reducing its demand. General transfers, on the other hand, simply represent an implicit increase in individuals' incomes and do not increase their tax shares. As predicted by equation (4.9), a general transfer would result in a greater amount of public expenditures than an equivalent increase in private income by an amount equal to [Q](dhi/dI). This explains the flypaper effect. A lesson that, nevertheless, emerges from the literature on the flypaper effect is that intergovernmental transfers should be examined in the context of the overall structure of intergovernmental fiscal relations and with regard paid to economic, political, institutional and legal aspects.

Summary

Decentralisation can promote efficiency by improving correspondence between the demand for and supply of public goods, enhancing intergovernmental competition, constraining abuses of taxing powers, and promoting greater accountability. To a certain extent, decentralisation can also promote equity, particularly in the provision of basic .social services, as local governments are in a better position to identify the target beneficiaries and provide appropriate services. However, decentralisation can be a hindrance to macro economic stabilisation, a function that is generally reserve for the national government.

While the literature provides a strong *a priori* case for decentralisation, it offers no single hard and fast rule for its operationalisation. The traditional approach suggests a rather neat, rigid and vertical division of functions among different government levels. The larger the benefit area of a public good, the higher should be the level of government responsible for its provision. Local public goods whose benefits and costs are confined to a certain subset of the population should be provided by local governments, unless there are significant cross border spill-over effects necessitating central government intervention. The new approach which is based on consideration of organisational costs, on the other hand, suggests no clear cut division of powers and responsibilities. It recognises the fact that most if not all of public goods and services have national, regional and local dimensions, and cannot be regarded as the sole responsibility of any single level of government.

There are two major issues that usually arise with decentralisation: vertical fiscal imbalance (mismatch between expenditure requirements and revenue sources of governments at different levels) and horizontal fiscal imbalance (inequality in the expenditure needs and revenue capacity of governments at the same level). If expenditure and taxing powers are to be assigned according to the major principles in the literature, vertical fiscal imbalance is likely to occur. The Musgravian principles of appropriate tax assignments demand centralisation of the major and most productive taxes, while the decentralisation theorem and subsidiarity principle suggest local provision or decentralisation of many expenditure functions. Vertical fiscal imbalance can result in the inability of local governments to carry out their assigned functions and poses an obstacle to genuine local autonomy and the achievement of the benefits of decentralisation. Horizontal fiscal imbalance, on the other hand, can arise due to varying revenue capacities and expenditure requirements of governments which can be attributed to their varying socioeconomic, demographic and physical characteristics. Horizontal fiscal imbalance violates one of the principal maxims of public finance, that is, the 'equal treatment of equals'. It can also cause inefficient migration decisions and allocation of factors of production.

Intergovernmental fiscal transfers, which may take the form of revenue sharing arrangements and/or grants, are the primary instruments used by government in addressing fiscal imbalances. The literature suggests that there is a corresponding type or design of transfers for each purpose. Specific purpose transfers are usually associated with responsibility sharing, while general purpose transfers are regarded as most appropriate in restoring or maintaining vertical fiscal balance. Fiscal equalisation transfers provide the main instrument for achieving horizontal fiscal balance. The use of different types of transfers is based on theoretical proposition about the behavioural response of recipient government to each type of transfer.

Appendix 4.1

The median voter model with variable tax shares

Max $U_i(G, X_i)$

subject to $I_i = X_i + h_i(I_i)[G - A]$

$$\ell = U(G, X_i) + \lambda[I_i - X_i - h_i(I_i)G + h_i(I_i)A]$$

First Order Condition:

$$\ell_\lambda = I_i - X_i - h_i(I_i)G + h_i(I_i)A = 0$$

$$\ell_G = U_G - \lambda h_i(I_i) = 0$$

$$\ell_x = U_x - \lambda = 0$$

Totally differentiate the first order condition:

$$dI_i - dX_i - h_i dG - G h_i' dI + h_I dA + A h_I' dI = 0$$

$$U_{GG} dG + U_{GX} dX - h_i d\lambda - \lambda h_i' dI = 0$$

$$U_{XG} dG + U_{XX} dX - d\lambda = 0$$

In matrix notation:

$$\begin{bmatrix} 0 & -h_i & -1 \\ -h_i & U_{GG} & U_{GX} \\ -1 & U_{XG} & U_{XX} \end{bmatrix} \begin{bmatrix} d\lambda \\ dG \\ dX \end{bmatrix} = \begin{bmatrix} -dI_i + G h_i' dI - A h_i' dI - h_i dA \\ \lambda h_i' dI \\ 0 \end{bmatrix}$$

$$|J| = \begin{vmatrix} 0 & -h_i & -1 \\ -h_i & U_{GG} & U_{GX} \\ -1 & U_{XG} & U_{XX} \end{vmatrix} = (-1)(-h_i)\begin{vmatrix} -h_i & U_{GX} \\ -1 & U_{XX} \end{vmatrix} - 1\begin{vmatrix} -h_i & U_{GG} \\ -1 & U_{XG} \end{vmatrix}$$

$$= h_i(-h_i U_{XX} + U_{GX}) - 1(-h_i U_{XG} + U_{GG})$$

$$= h_i(U_{GX} - h_i U_{XX}) + (h_i U_{XX} - U_{GG})$$

$$= h_i U_{GX} - h_i^2 U_{XX} + h_i U_{XG} - U_{GG}$$

$$= 2 h_i U_{GX} - h_i^2 \overset{(-)}{U_{XX}} - \overset{(-)}{U_{GG}} > 0$$

Comparative statics:

$$\frac{dG}{dA} = \frac{\begin{vmatrix} 0 & -h_i & -1 \\ -h_i & 0 & U_{GX} \\ -1 & 0 & U_{XX} \end{vmatrix}}{|J|}$$

$$= \frac{-(-h_i)\begin{vmatrix} -h_i & U_{GX} \\ -1 & U_{XX} \end{vmatrix}}{|J|}$$

Let:

$$|P| = \begin{vmatrix} -h_i & U_{GX} \\ -1 & U_{XX} \end{vmatrix}$$

$$= -h_i \overset{(-)}{U_{XX}} + U_{GX} > 0$$

$$\frac{dG}{dA} = h_i \frac{|P|}{|J|} > 0$$

$$\frac{dG}{dI} = \frac{\begin{vmatrix} 0 & -1 + G h_i' - A h_i' & -1 \\ -h_i & \lambda h_i' & U_{GX} \\ -1 & 0 & U_{XX} \end{vmatrix}}{|J|}$$

$$= \frac{-(-1 + G h_i' - A h_i')\begin{vmatrix} -h_i & U_{GX} \\ -1 & U_{XX} \end{vmatrix} + (-1)\begin{vmatrix} -h_i & \lambda h_i' \\ -1 & 0 \end{vmatrix}}{|J|}$$

$$\frac{dG}{dI} = \frac{|P|}{|J|} + \frac{h_i'(A-G)|P|}{|J|} - \frac{\lambda h_i'}{|J|} > 0$$

Note:

$$\frac{|P|}{|J|} = \frac{1}{h_i}\frac{dG}{dA}$$

Comparison of $\frac{dG}{dI}$ and $\frac{dG}{dA}$:

$$\frac{dG}{dA} = h_i\left[\frac{dG}{d\,I_i} - \frac{h_i'(A-G)|P|}{|J|} - \frac{\lambda\, h_i'}{|J|}\right]$$

$$= h_i\frac{dG}{d\,I_i} + \left[\frac{h_i\,T|P|}{|J|} + \frac{h_i\,\lambda}{|J|}\right]\frac{d\,h_i}{d\,I_i}$$

let:

$$[Q] = \left[\frac{h_i\,T|P|}{|J|} + \frac{h_i\,\lambda}{|J|}\right] > 0$$

$$\frac{dG}{dA} = h_i\frac{dG}{d\,I_i} + [Q]\frac{d\,h_i}{d\,I_i}$$

5
Research methodology

The research problem

Grants and revenue sharing arrangements are integral aspects of central-local government fiscal relations in the Philippines. Local governments have been assigned more expenditure functions than taxing powers. Central transfers are used to bridge this gap. This study examines central transfers in relation to the fiscal position and behaviour of local governments, as inferred from their expenditure and revenue performance. The major objective of the analysis is to assess whether central transfers promote equity and local resource mobilisation.

Conceptualisation

The fiscal capacity. The equity of central transfers is evaluated in relation to the fiscal capacities of local governments in a given area. Fiscal capacity relates to the ability of governments to provide services. This depends on their revenue bases and costs of rendering services. Differences in fiscal capacities of local governments result in horizontal inequities. Individuals who are similar in all respects except for their place of residence are treated unequally in terms of the tax burden exacted and/or services provided by their local government.

The fiscal gap. The fiscal capacity of a local government unit is summarised by its expenditure need-revenue capacity gap, or fiscal gap. The fiscal gap measures the difference between what a community must spend to provide a basic package of local services and its available revenues at a standard level of tax effort (Bradbury, *et al.*, 1984, pp.161-162). The fiscal gap is different from the budget deficit which is readily measured as the difference between actual revenues and expenditures.

Expenditure needs. Actual government expenditures depend on various factors which include the resources available to the community, the choice of quantity and quality of goods and services provided, and the costs of providing them. Expenditure need is a theoretical concept which abstracts from preferences and resource effects, and

depends solely on costs factors. It is designed to measure disabilities of local governments to provide goods and services at 'normal costs' due to factors which are beyond their control. These factors include the demographic, socioeconomic and physical characteristics of an area which affect the size of client groups requiring services, and the unit costs of providing them (Mathews, 1993; Bradbury, *et al.*, 1984).

Revenue capacity and effort. Government revenue is determined both by its revenue capacity and revenue effort. The revenue capacity represents the potential or maximum amount that could be collected by a government unit while the revenue effort represents the choice of the amount it decides to collect (Weist, 1991). In the short run, the revenue capacity of a government unit is independent of its fiscal decisions and is largely determined by factors beyond its control.

The expenditure need-revenue gap, thus, abstracts from fiscal choice variables. Not all fiscal differences justify equalisation. Only those differences which arise from factors outside the control of local authorities are regarded as causes of inequity. Central transfers are considered equitable if they reduce or minimise disparities in the fiscal gap among government units, notably, by giving greater amounts to those with lower tax bases (revenue disadvantage) and/or greater expenditure needs (cost disadvantage).

It is worth noting that while intergovernmental transfers are designed primarily to help ensure horizontal equity (or equal treatment of equals), they can also advance vertical interpersonal equity, which relates to how the fiscal system treats individuals with different income levels. This is because communities with greater fiscal capacity usually have greater numbers of wealthy residents. Transfers which minimise differences in fiscal capacities among communities, therefore, also help to reduce income disparities among individuals.

Measuring fiscal capacity

Weist (1991) noted that the concept of fiscal capacity arose through public finance applications rather than public finance theory; thus, there is no single correct method of measuring fiscal capacity. Based on the literature, she pointed to three important characteristics of a suitable measure of fiscal capacity based on the literature. First, it

should enable comparisons of the fiscal position of various government units; second, it should be comprehensive, that is, it should be measured with respect to sources of revenue and expenditure requirements; third, it should be independent of fiscal choices or preferences.

The fiscal gap which is used to measure the fiscal capacity of a government unit can be expressed algebraically as:

$$G_i = \bar{E} C_i - \bar{r} B_i \qquad (5.1)$$

where:

G_i - fiscal gap of local government i

C_i - cost index for local government i

$\bar{E}$ - standard expenditure (e.g. average expenditure of all local governments)

$\bar{r}$ - standard revenue effort (e.g. average revenue effort)

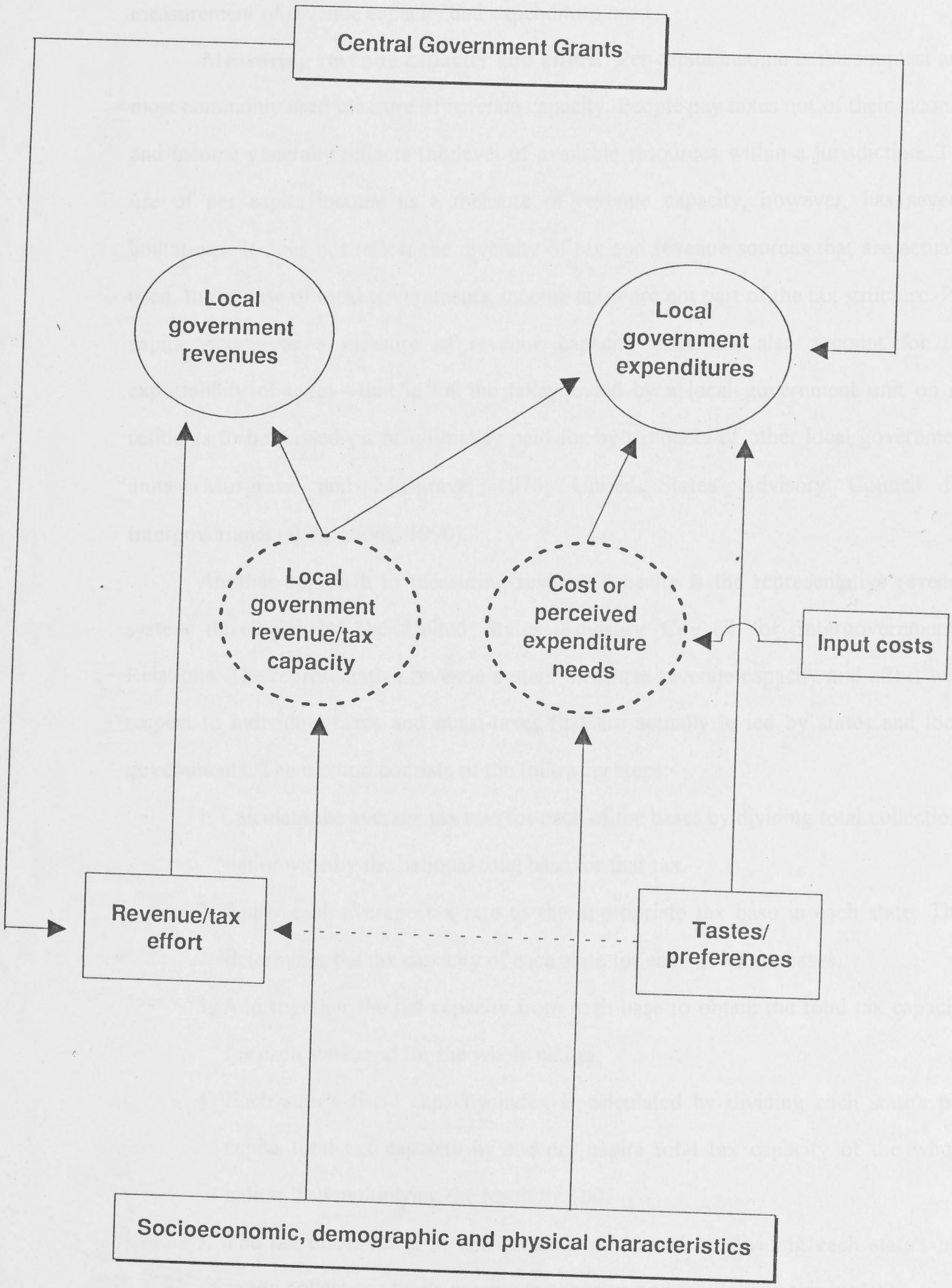
B_i - revenue base of local government i

The first term on the right-hand side of equation (1) represents standardised expenditure need, while the second term represents standardised revenue capacity. The standardisations of expenditure and revenue are designed to isolate the effect of fiscal choice variables in the measurement of the fiscal gap.

This study uses a two-stage approach to measure the fiscal gap. Measures of revenue capacity and expenditure need are developed separately, based on actual revenue and expenditure data, and then brought together as in equation (5.1). Considering the relationship between revenue and expenditure, a general model that considers them together, thus allowing for all possible interactions between them would be a better way of estimating fiscal capacity. Problems involved in the measurement of government output and services and specifications of demand and supply for public goods, make this very difficult. The methodology in this study is a practical compromise that responds to these difficulties and to limited data availability.

Figure (5.1) provides a bird's-eye view of how the fiscal gap is measured. It shows the major categories of variables that affect government revenues and expenditures. Based on behavioural assumptions about local governments, multivariate regression equations expressing government revenues and expenditures as a function of

Figure 5.1 **Fiscal gap model**



these variables can be specified. The regression analyses provide a way of isolating and measuring the effect of individual factors on revenue and expenditure, enabling measurement of revenue capacity and expenditure need.

Measuring revenue capacity and effort. Per capita income is the simplest and most commonly used measure of revenue capacity. People pay taxes out of their income, and income generally reflects the level of available resources within a jurisdiction. The use of per capita income as a measure of revenue capacity, however, has several limitations. It does not reflect the diversity of tax and revenue sources that are actually used. In the case of local governments, income taxes are not part of the tax structure. Per capita income as a measure of revenue capacity does not also account for the exportability of taxes—that is for the taxes levied by a local government unit on its residents to be passed on or ultimately paid for by residents of other local government units (Musgrave and Musgrave, 1976; United States Advisory Council for Intergovernmental Relations, 1990).

Another approach to measuring revenue capacity is the representative revenue system developed by the United States Advisory Council for Intergovernmental Relations. The representative revenue system measures revenue capacity and effort with respect to individual taxes and quasi-taxes that are actually levied by states and local governments. The method consists of the following steps:

1. Calculate the average tax rate for each of the bases by dividing total collections nationwide by the national total base for that tax.
2. Apply each average tax rate to the appropriate tax base in each state. This determines the tax capacity of each state for each of its tax bases.
3. Add together the tax capacity from each base to obtain the total tax capacity for each state, and for the whole nation.
4. Each state's fiscal capacity index is calculated by dividing each state's per capita total tax capacity by the per capita total tax capacity of the whole nation, and multiplying the result by 100.
5. The tax effort index in each state is computed by dividing each state's per capita collections by its per capita capacity, and multiplying this by 100.

The most critical step in the representative revenue system approach is the identification of the appropriate tax or revenue base which is the basic source of differences in estimated revenue capacities. This step is also the most difficult to implement (United States Advisory Council for Intergovernmental Relations, 1990). Chelliah and Sinha (1982) who applied this method in India noted that data on tax bases are rarely available with the necessary degree of disaggregation, and aggregated data tend to conceal significant differences in capacity.

The representative revenue system also has some conceptual problems. The average tax rates do not provide good estimates of the revenues that government units are likely to obtain from their tax bases. The estimates tend to deny the interdependence of the various tax bases and rates within a given governmental unit. The average tax rate weighting method applied to individual tax bases does not take into account that the heavy use of one base may preclude the heavy use of another because of the constraints of income and wealth. Furthermore, the revenues that governments can raise from their revenue bases depend on the interaction of various factors. Although local governments, for example, are not allowed to impose income taxes, per capita personal income is likely to play an important factor in their revenues. So are other factors such as urbanisation, income concentration, and level of development which cannot be completely linked to any specific revenue base (Akin,1973; Dwivedi,1986).

Akin (1973) suggests that multiple regression can provide estimates of revenue capacities that better reflect the amount of revenues that are likely to be raised by governments. This is done by regressing per capita revenues of governments on various factors that are viewed *a priori* to be related to revenue capacities. The predicted per capita revenues of the regression equation are treated as the measure of revenue capacities. Revenue efforts are measured as the ratios of actual to predicted revenues.

The multiple regression analysis had been used in various studies of the International Monetary Fund to gauge revenue capacity and efforts of aid recipient countries (Bahl, 1971, 1972; Chelliah, 1971; Tait, Gratz and Eichengreen, 1979). It had also been used to examine revenue capacities and efforts of local governments (Bahl and Schroeder, 1983a; Dwivedi, 1986; Bawazier, 1988).

The revenue capacity measure based on the fitted value of the regression equation does not represent the potential or maximum revenue as the term revenue capacity implies. It measures the amount that would be raised by a local unit if that unit responded to the 'predictor' variables in accordance with the 'average' response of all the units (Akin, 1973). Actual revenues generated by some government units may exceed their estimated revenue capacities because the ordinary least squares regression represents an average function and not a potential or maximum function.

To measure local government revenue capacity and effort, this study adopts the Random Coefficient Regression Model[1] used by Kalirajan and Obwona (1994a, 1994b) to estimate firm potential output and technical efficiency. A major feature which distinguishes the Random Coefficient Regression Model from ordinary least squares regressions is the inclusion in the former of observation-specific characteristics. The observation-specific characteristics are modelled in terms of coefficient or parameter variations. The maximum or potential output is estimated using the highest estimated coefficients of each individual input which are viewed as representing the 'best practice' techniques of applying the inputs.

Based on the Random Coefficient Regression Model, the local government revenue function is specified as:

$$R_i = X_i' \beta_i + \varepsilon_i \qquad (5.2)$$

$$\beta_i = \bar{\beta} + \upsilon_i \qquad (5.3)$$

where:

R_i – per capita revenue of local government i

X_i – a K x 1 vector of revenue capacity factors

β_i – a K x K matrix of parameters or coefficients

$\bar{\beta}$ – mean coefficients

ε_i , υ_i – random errors

The revenue function specified in equation (5.2) differs from the revenue function implied by the ordinary regression equation used in earlier studies, with respect to the parameters or coefficients. In the former, each revenue capacity factor has a

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[1]See Appendix 5.1 for a full discussion of the Random Coefficient Regression Model.

corresponding vector of coefficients representing the individual responses of each local government. In the latter there is only one coefficient—the mean response of all local governments—for each revenue capacity factor. The Random Coefficient Regression Model is conceptually more appropriate in estimating local government revenue capacity and effort, since it is widely observed that local governments exploit their various revenue bases to varying degrees. Even with the same level of revenue bases, actual revenues collected by local governments differ due to factors such as political will and collection efficiency which are difficult to quantify. The applicability of the Random Coefficient Regression Model is an empirical matter which depends on the data being examined.

The computer program TERAN, which was written to provide estimates of firm- and input-specific efficiency measures (Zhang and Obwona, 1993), was used in the estimation of the local government revenue function. The program also calculates the Breusch-Pagan Chi-squared statistic for testing the applicability of the Random Coefficient Regression Model to the data. The revenue function was estimated as a Cobb-Douglas function of the form:

$$\ln R_i = \beta_{1i} + \sum_{k=2}^{m} \beta_{ki} \ln X_{ki} + \varepsilon_i \qquad (5.4)$$

where subscripts k and i denote revenue capacity factors and local governments, respectively. Based on the highest estimated regression coefficients (denoted by β_k^*, k = 1,...,m), the revenue capacities (R_i^*) and revenue efforts (r_i) of local governments are calculated as follow:

$$\ln R_i^* = \beta_1^* + \sum_{k=2}^{m} \beta_k^* \ln X_{ki} \qquad (5.5)$$

$$R_i^* = \exp(\ln R_i^*) \qquad (5.5a)$$

$$r_i = \frac{R_i}{R_i^*} \qquad (5.6)$$

Measuring Expenditure Needs. A major obstacle to the measurement of expenditure needs or cost disparities is the problem of describing and measuring the production of public goods and services. The level of public outputs is difficult to quantify. In most cases, the only data readily available are government expenditures. Thus, it is no surprise that approaches to measuring expenditure needs have taken off from expenditure determinants analysis.

Beginning in the 1950s with the study of Fabricant (1952), several studies have sought to determine the factors that affect state and local government expenditures. The early studies have been reviewed by Auten (1972), Bahl, Johnson and Wasylenko (1980a), Pirasteh (1985), Selim (1988) and Bramley (1990). They all discovered significant relationships between certain state and/or local government characteristics and their expenditures. The observed relationships, however, were not uniform. Some characteristics which were found to be significantly related to expenditures in some states or regions were insignificant in others. The relationships also varied across government functions and over time.

The expenditure determinant studies show that variation in local government expenditures can be attributed to various factors, both within and beyond the control of local government authorities. The disparities in per capita government expenditures due to factors beyond its control, particularly those factors related to the size of client groups requiring services and costs of providing services, serve as the basis for the assessment of expenditure needs. In the context of fiscal capacity equalisation, which provides the rationale for the assessment of expenditure needs, only cost disparities due to "need factors" beyond the control of government authorities merit compensation. Otherwise, inefficiencies will be tolerated and even encouraged.

From 1974 to 1980, the United Kingdom used multiple regression to measure expenditure needs and allocate central government rate support grants to local governments. A similar approach was used in Denmark following 1979 legislation introducing social criteria in the measurement of expenditure needs. Socioeconomic, demographic, and physical characteristics of local governments which are viewed a priori as affecting the costs of providing services were regressed on per capita local

government expenditures. Variables with statistically significant coefficients were regarded as need factors, and were used in a formula to allocate central government transfers with their coefficients as weights (Bradbury, *et al.*, 1984; Jackman, 1981; Lotz, 1981).

This method of estimating expenditure need was criticised on several grounds. Many of its critics noted that there are other factors (e.g., resources and preferences) which could affect local government expenditures that are not included in the regression equation. Thus, the estimation is biased. There could also be a feedback effect of grants on expenditure needs. Those government units which received higher grants and incurred greater expenditures would be likely to be assessed as having higher expenditure needs. Multicollinearity can also be a problem because the various need factors are interrelated; serious multicollinearity problems can result in inefficient estimates, although they are unbiased (Jackman, 1981; Lotz, 1981; Mouritzen and Skovsgaard, 1981).

Most of these criticisms can be traced to the absence of an explicit theory on which to base the estimation of expenditure needs. Auten (1972), Bradbury, *et al.*, (1984) and Weist (1991), suggest more systematic applications of multiple regression in measuring expenditure needs through the use of economic models. In his estimation of expenditure needs, Auten referred to the aggregate consumption function used in macroeconomic analysis, in which consumption is viewed primarily as a function of income. He expressed per capita local government expenditure as a function of various factors, which he classified as ability, perceived need, and taste variables. The ability factors reflected the revenue-raising capacity of local governments. The perceived need factors consist of various socioeconomic characteristics which affect the expenditures of governments in general. Auten noted that perceived needs for public services are determined relative to the average expenditure behaviour of governments (or reference communities). Taste factors consist of random elements which affect the demand of individual communities only.

Auten's model, which was used to estimate expenditure needs of local governments in New York State, is presented as follows:

$$C_{jk} = a + b\,A_j + g\,N_j + t_j \qquad (5.7)$$

where C_{jk} – community j's demand for public service k

A_j – vector of ability variables

N_j – vector of socioeconomic variables that affect perceived needs

t_j – error term reflecting local taste factors

Local government expenditure needs were calculated by substituting into the estimated regression equation the average values for revenue capacity factors, and the actual values for the socioeconomic variables. Thus, expenditure need differences are solely due to perceived need factors. The formula for the calculation of expenditure needs is expressed as:

$$\hat{C}_{Njk} = \hat{a} + \hat{b}\,\overline{A} + \hat{g}\,N_j \qquad (5.8)$$

where $\hat{C}_{Njk}$ is estimated public expenditure needs, $\overline{A}$ is the vector of revenue capacity variables pegged to the average values, and $\hat{a}$, $\hat{b}$, $\hat{g}$ are the estimated regression coefficients.

The model by Bradbury, *et al.* (1984) is more representative of the expenditure determinants literature, and provides better insights to the various factors that affect local government expenditures. It was used to assess expenditure needs for Massachusetts communities and school districts in connection with the allocation of state aid. It views local government officials as trying to maximise the utility of the decisive voter (the median voter) subject to budget constraints. The model can be expressed as:

$$\text{Maximise} \quad U_d(Z_d, S) \qquad (5.9)$$

$$\text{subject to} \quad Y_d = Z_d + r\,B_d \qquad (5.10)$$

$$E(S, P, C) = rB + A \qquad (5.11)$$

Equation (5.9) represents the utility function of the decisive voter which is a function of his or her consumption of a composite private good (Z_d) and level of local services (S). This representation of the utility function follows from Bradford, Malt and Oates (1969) which noted an important distinction between government expenditures and public service or output levels. Other studies model utility as a function of local

government expenditures. This results in ambiguities since expenditure depends on both price and quantity of public services. Individuals may derive satisfaction either from higher levels of public good consumption or price increases; they may be willing to trade away units of private goods for public good price increases (Bahl, Johnson and Wasylenko, 1980a).

Equation (5.10) represents the personal budget constraints of the decisive voter. His disposable income net of national taxes (Y_d) is equal to his spending on private goods whose price is assumed to be unity plus his local tax.

Equation (5.11) shows the budget constraint of the local government. Local government expenditure (E) is equal to local tax revenues (rB) plus transfers from the national government (A). The production function for local services shows up in the specification of the local government expenditure function, which is its inverse. Local government expenditures are specified as a function of the level of public output, prices of inputs and environmental costs. Local tax revenue is defined as the product of the effective tax rate or revenue effort (r) and revenue base (B). In the short run, only the revenue base can be properly regarded as an exogenous variable; the effective tax rate which is a policy choice variable is an endogenous variable.

The endogenous or choice variables in the model are Z_d, S, and r. Since the functions in the model are expressed in general form, it is not possible to obtain explicit solution to the endogenous variable. By the implicit function theorem, however, the implicit solutions to the choice variables can be written as functions of the exogenous variables in the model, that is:

$$\overline{Z_d} = f(Y_d, B_d P, C, B, A) \qquad (5.12)$$

$$\overline{S} = f(Y_d, B_d, P, C, B, A) \qquad (5.13)$$

$$\bar{r} = f(Y_d, B_d, P, C, B, A) \qquad (5.14)$$

The solution for the optimal level of local public good ($\overline{S}$) is substituted into the expenditure function. Thus, the expenditure function is expressed as a function of voters' incomes and preferences (labeled D_d for demand), costs of factors of production, costs of environmental factors, local revenue bases and central government transfers, i.e.:

$$E = f(D_d, P, C, B, A) \qquad (5.15)$$

Specific key variables can be identified for each of the major categories of variables specified by equation (5.15) and estimated in a simple linear relationship of the form:

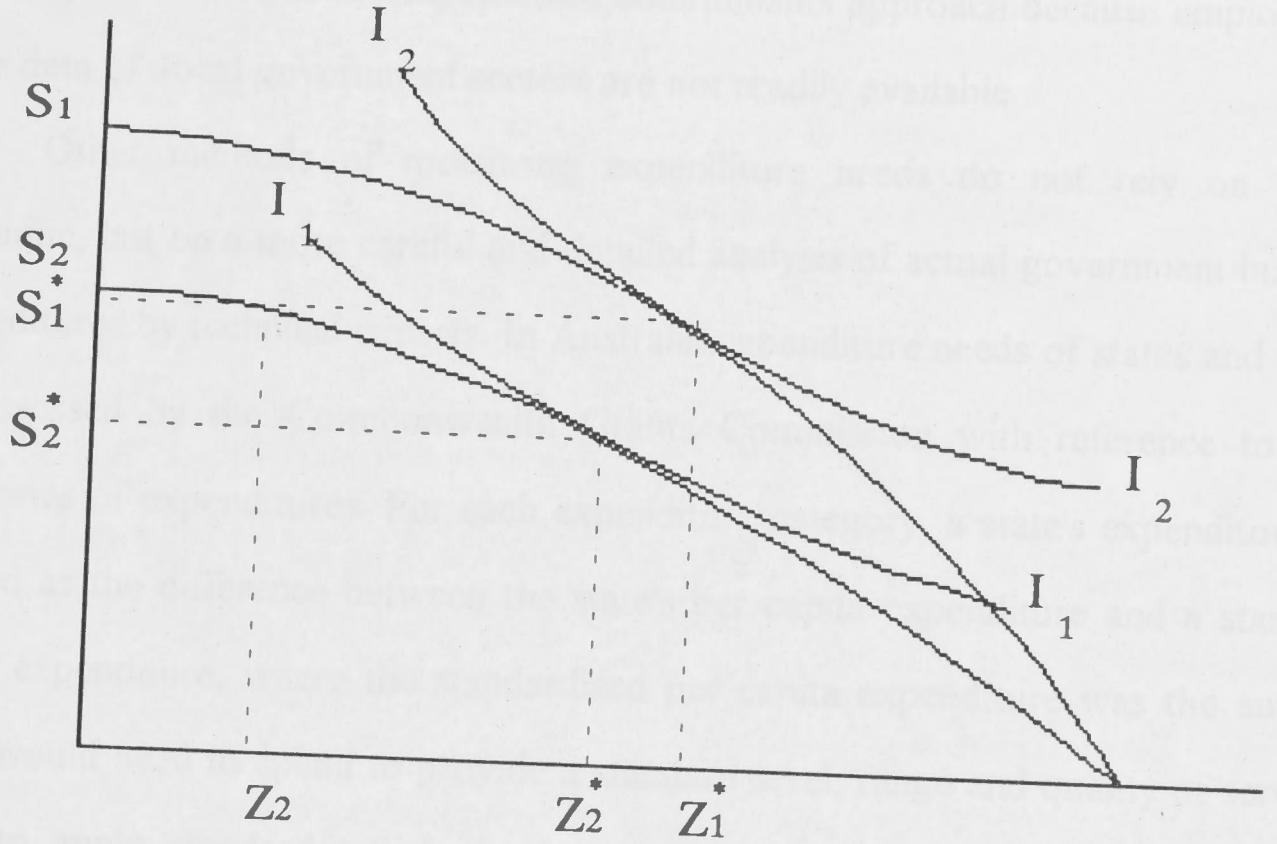
$$E = a_0 + a_1D + a_2P + a_3C + a_4B + a_5A + u \qquad (5.15a)$$

Ideally, the local government expenditure model should be estimated as a system of equations (5.9–.11); but due to the difficulty of obtaining measures of public output, the reduced form equation of local government expenditure (5.15) is used in the estimation.

The estimation results of equation (5.15a) can be used to calculate a cost index. This can be done by substituting into the estimated regression equation the average values for all the variables, except for the cost variables which take their actual values. The predicted expenditure values, thus, reflect variation due to environmental cost factors alone. A cost index for each jurisdiction is derived by dividing its predicted expenditure by the average predicted expenditures of all jurisdictions. The expenditure need of a community is then measured by applying its cost index to a given expenditure standard (e.g. average expenditure).

It is important to bear in mind that this measure of cost disparities is likely to understate true cost disparities. Figure 5.2 shows the feasible consumption sets labeled (Z_1S_1 and Z_1S_2) of two jurisdictions with the same resources but different cost of producing public goods (S). It is more costly to produce public goods in jurisdiction 2 than in jurisdiction 1. With the same resources, jurisdiction 1 can produce a maximum of S_1 public goods but jurisdiction 2 can only produce S_2 public goods. The preferences of the decisive voter are indicated by indifference curves (I_1I_1 and I_2I_2). Point A represents the chosen bundle of private goods (Z_1^*) and public goods (S_1^*) in jurisdiction 1, and point B indicates the chosen bundle of private goods (Z_2^*) and public goods (S_2^*) in jurisdiction 2. Based on observed government expenditures, the cost disparity between jurisdiction 1 and jurisdiction 2 is measured by ($Z_2^* - Z_1^*$). This difference is less than the true cost disparity ($Z_2 - Z_1^*$). The cost disparities measured on the basis of government expenditures do not take into account that the high cost jurisdiction has responded to higher cost by reducing its service level. It underestimates the true cost disparities whenever the price elasticity of demand is non-zero (Bradbury, *et al.*, 1984).

Figure 5.2 **Measurement of cost disparities**



Source: Bradbury, *et al.*, 1984. 'State aid to offset fiscal disparities across communities', *National Tax Journal,* 37:151–70

Another approach to measuring cost disparities is the public employment model used by Bahl, Johnson and Wasylenko (1980b), and Weist (1991). Since the public sector mainly provides services and is very labour intensive, employment, rather than expenditures is used as the surrogate variable for public output. The public employment approach assumes a Leontief fixed factor relation between labour and non-labour inputs in the production of public services. Thus, instead of examining the variation in total government expenditures, it examines the variation in labour expenditures. This makes analysis of cost disparities more tractable because variation in labour expenditures can be partitioned into wage (or price effect) and employment (or output effect) which are both measurable.

The Leontief fixed factor production technology for public services which is the foundation of the public employment approach is, however, very restrictive. In a cross-section analysis, this implies that the quality of the a unit of employment is everywhere the same (Bahl, Johnson and Wasylenko, 1980a). It also pre-empts substitution between labour and non-labour inputs, barring the inclusion of environmental factors in the

analysis of cost disparities (Weist, 1991). The public employment approach may not also be as implementable as the expenditure determinants approach because employment and wage data of local government sectors are not readily available.

Other methods of measuring expenditure needs do not rely on regression technique, but on a more careful and detailed analysis of actual government budgets and expenditures by technical experts. In Australia expenditure needs of states and territories are assessed by the Commonwealth Grants Commission with reference to different categories of expenditures. For each expenditure category, a state's expenditure need is defined as the difference between the state's per capita expenditure and a standard per capita expenditure, where the standardised per capita expenditure was the amount the State would need to spend to provide a standard level, range and quality of services if it were to apply standard policies and operate at standard efficiency (Commonwealth Grants Commission, 1981). For some expenditure categories, the per capita expenditures are adjusted to account for cost differences due to factors such as scale, population dispersion, client groups, and physical and economic environment. The method of accounting for these factors involves subjective judgements.

The Australian method of measuring expenditure need requires detailed and uniform budgetary data at the state/local government level, which are not available in many countries. An advantage of the regression approach is that it can be implemented with readily available data. In this study, local government expenditure needs are measured following the approach used by Bradbury, et al (1984). Rao and Aggarwal (1991) and Park (1989) respectively, used the same model to measure expenditure needs of state governments in India and local governments in Korea. Systematic assessments of local government expenditure needs can be made with limited data.

Assessment of the Equity of Central Government Transfers

Spearman's Rank Correlation Coefficient. The equity of central government transfers is assessed by the Spearman rank correlation coefficients and the Schutz coefficient of inequality. The Spearman rank correlation coefficient provides a conservative indicator of the equity of revenue sharing. It measures the correlation

between the fiscal capacities of government units and the central government transfers received. Since the measure is based on rankings, it is not susceptible to extreme values or outliers. Valid tests of significance do not rely on restrictive assumptions regarding the population distribution (Newbold, 1990). The first step in calculating the Spearman rank correlation coefficient is to rank fiscal capacities and central government transfers received by each local government unit. When there are no ties in the rankings the Spearman rank correlation coefficient (R) can be more simply computed using the following formula:

$$R = 1 - \frac{6\sum_{i=1}^{n} d_i^2}{n(n^2 - 1)} \qquad (5.16)$$

where the d_i are the differences in ranks.

Schutz Coefficient of Inequality. The coefficient of inequality proposed by Schutz (1951) is used to compare the degree equity of fiscal capacities under various distributions of central government transfers. The Schutz coefficient of inequality is an extension of the Lorenz curve technique which is usually used in the measurement of income inequality. It is computed on the basis of the slope of the Lorenz curve at various points. It provides a better measure of inequality than the Gini coefficient ratio (which is also based on the Lorenz curve) when negative values are present.

Figures 5.3 and 5.4 illustrate the method of measuring the Schutz coefficient of inequity. Figure 5.3 depicts the Lorenz curve when some values are negative; the Gini coefficient ratio is not computable in this case. The diagonal line AB depicts perfect equality and has a slope equal to one at various points. The Schutz coefficient of inequality is measured by the shaded area in Figure 5.4 which is equivalent to the sum of the difference between the slope of the line of perfect equality and slope of the Lorenz curve at various points. Note that the areas on either side of line of equality (tangent equals 1) are equal. This is because the Lorenz curve represents a cumulative distribution—any member who receives less than his equal or proportionate share must be compensated for by one or more members who receive as much more than their equal shares as he received less. Thus, the Schutz coefficient of inequality could be represented

Figure 5.3 **Lorenz diagram of a hypothetical distribution of fiscal capacity with negative values**

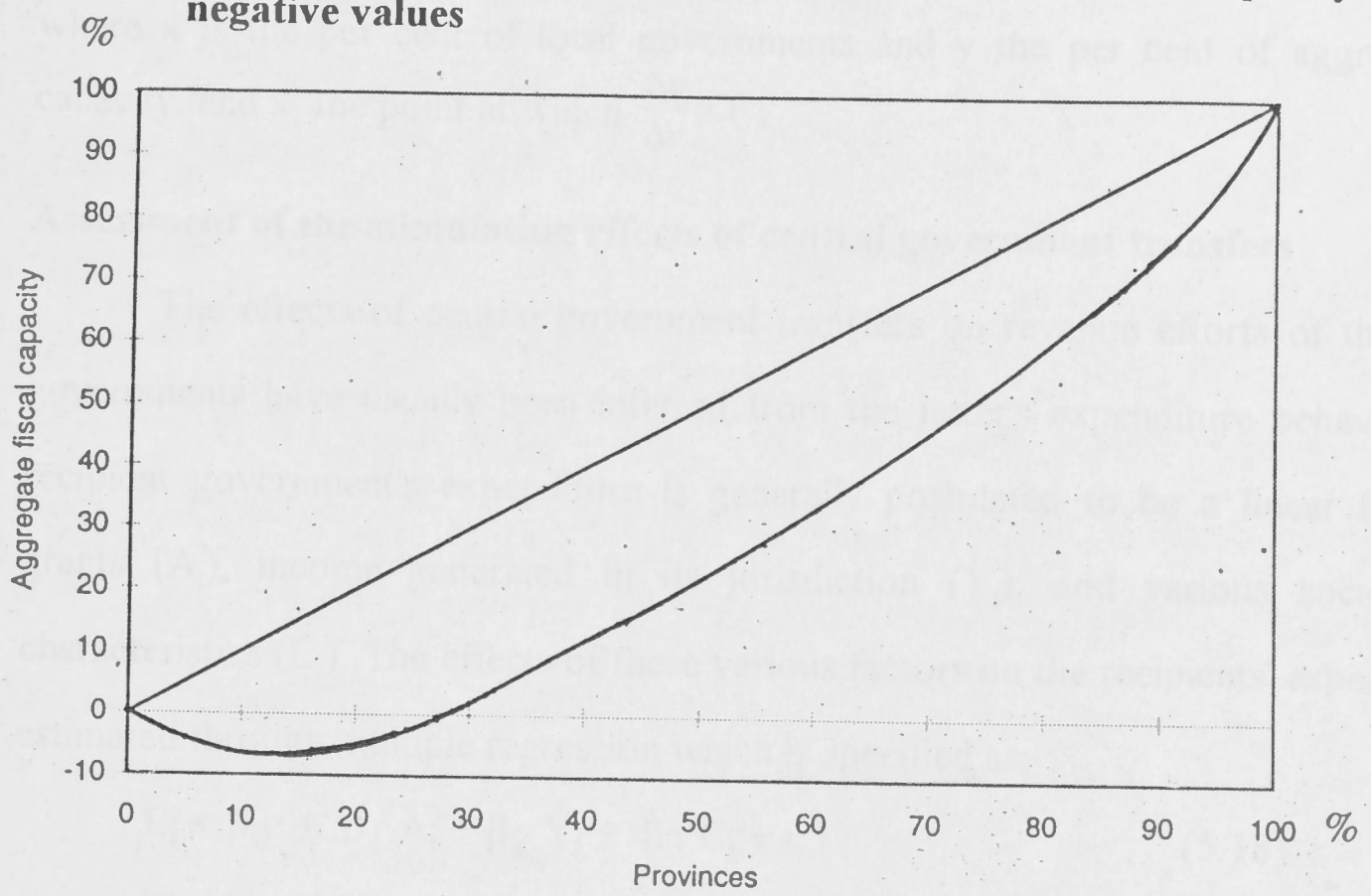
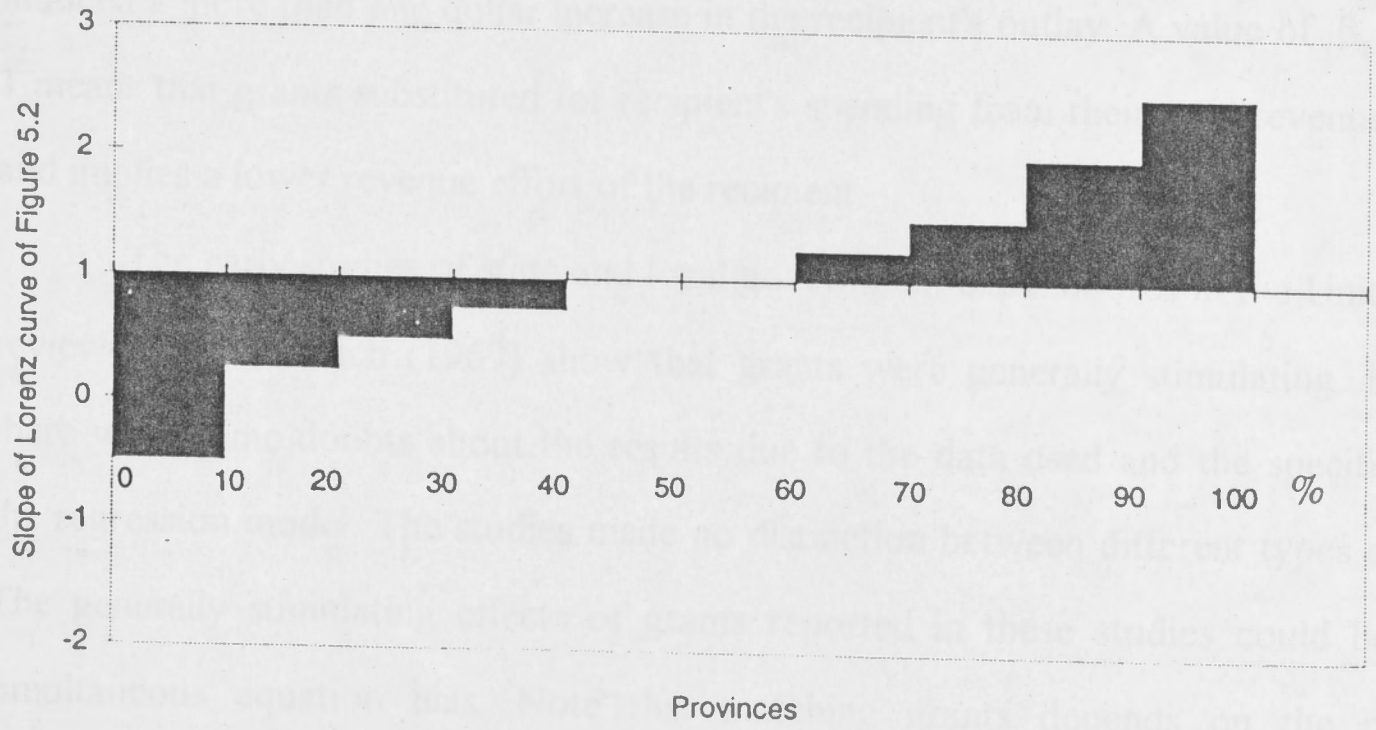


Figure 5.4 **Equality and inequality cognate to Lorenz diagram of Figure 5.3**



by either shaded areas below or above the line of equality. The formula for the Schutz coefficient of inequity (S) can be expressed as:

$$S = \sum_{x=0}^{x1} (\Delta x - \Delta y) \qquad (5.17)$$

where x is the per cent of local governments and y the per cent of aggregate fiscal capacity, and x_1 the point at which $\frac{\Delta y}{\Delta x} = 1$.

Assessment of the stimulating effects of central government transfers

The effects of central government transfers on revenue efforts of the recipient governments have usually been inferred from the latter's expenditure behaviour. The recipient government's expenditure is generally postulated to be a linear function of grants (A_i), income generated in its jurisdiction (Y_i), and various socioeconomic characteristics (C_i). The effects of these various factors on the recipients' expenditure are estimated through multiple regression which is specified as:

$$E_i = \beta_0 + \beta_1 A_i + \beta_2 Y_i + \beta_3 C_i + \varepsilon \qquad (5.18)$$

The coefficient of grants β_1 was used as the basis for assessing the effect of grants on the recipient's revenue effort. A value of β_1 greater than 1 means that grants stimulate recipient governments' spending and revenue efforts, that is, a dollar of grant induced a more than one dollar increase in the recipient's outlay. A value of β_1 less than 1 means that grants substituted for recipient's spending from their own revenue sources, and implies a lower revenue effort of the recipient.

The early studies of state and local government expenditures in the United States reviewed by Gramlich (1969) show that grants were generally stimulating. However, there were some doubts about the results due to the data used and the specification of the regression model. The studies made no distinction between different types of grants. The generally stimulating effects of grants reported in these studies could be due to simultaneous equation bias. Note that matching grants depends on the recipients expenditure, and hence can not be treated as a purely exogenous variable.

Many studies soon followed, using more sophisticated econometric models dealing with the peculiarities of different types of transfers in terms of their price and income effects. Gramlich (1977) and Inman (1979) provided comprehensive reviews of

these studies. Gramlich (1977) noted that the results reported tended to support the traditional grant theory except for the findings that general grants appeared to be more stimulating to recipient government expenditure than an increase in recipient income. In the traditional view their effects should be equivalent. Hence the evolution of the flypaper effect discussed in Chapter 4.

Schwallie (1989), in a survey of the recent empirical and theoretical literature attempting to explain the 'flypaper effect' phenomenon, noted that most of these studies were mainly focused on the behaviour of recipient governments. Schwallie argued that the effects of grants should be evaluated with regard to the aggregate public sector. Using a general equilibrium framework that accounts for the effects of grants on both grantor and recipient behaviour, Schwallie noted that grants can be both stimulating and substituting.

Many studies, particularly those dealing with developing countries (Local Development Assistance Program, 1994; Uddin, 1989; Bahl and Schroeder 1983d) adopt a simple expenditure regression model because of data limitations, and the simplicity of the design of central government transfers (which consist mostly of lump sum grants) in these countries. Furthermore, the major concern of developing countries is that central government grants could substitute for revenue efforts of local governments, and the simple expenditure regression approach seemed to be more attuned to this concern. The recent sophisticated models of grant analysis appear to be tailor made for the developed economies which are concerned with excessive revenue collection and spending by government.

The simple expenditure regression model, however, leads to some ambiguity with regard to the interpretation of the effect of grants on recipient governments' revenue efforts. A regression coefficient of central government transfers greater than one is interpreted as an indication of a stimulating effect, and less than one as an indication of a substituting effect. This interpretation can be deduced from the following budget identity:

$$E = T + A \tag{5.19}$$

where:

E – local government expenditures

T – local taxes

A – central government transfers

Taking the derivative of local government expenditures with respect to central government transfers yields:

$$\frac{dE}{dA} = 1 + \frac{dT}{dA} \tag{5.20}$$

Equation (5.20) shows that if central government transfers are substituting ($dT/dA < 0$) then the change in local government expenditures must be less than the change in central government transfers ($dE/dA < 1$), and vice versa. However, this correspondence between changes in expenditure and local taxes due to changes in central government transfers only holds if there are no savings or borrowings in the model. With savings (S) and borrowings (B), equation (5.18) would be:

$$\frac{dE}{dA} = 1 + \frac{dT}{dA} + \frac{dB}{dA} - \frac{dS}{dA} \tag{5.20a}$$

Equation (5.20a), shows that an increase in expenditures less than the increase in central government transfers ($dE/dA < 1$) does not necessarily mean that central government transfers were substituting because borrowing could have declined and/or saving could have increased as well. In such cases, the coefficient of central government transfers in the regression equation does not provide a sufficient basis for judging their effects on local government revenue efforts.

Local government revenues, as noted earlier, are determined both by their revenue capacity and revenue effort. Thus, the effect of central government grants on local government revenue effort cannot be inferred directly from the relationship between grants and local government revenues.

Only a limited number of local governments in the Philippines incurred borrowings, but savings or balances in local government accounts were widespread. Bahl (1983) and the Local Assistance Development Program (1994) attributed this to poor planning and budgeting, which in turn could be partly blamed on the uncertainty in the releases of central government transfers.

Noting the presence of borrowing and saving in local government accounts, this study uses a different and more direct approach to assess the effects of grants on revenue efforts. The estimated revenue effort of the random coefficient model is regressed on central government transfer, and other factors that could affect revenue effort. The latter serve as control variables to avoid bias estimates. The implicit solution to the effective tax rate (or revenue effort) represented by equation (5.14) in the local government expenditure model is used as the basis for specification of the revenue effort regression equation. The effects of central government transfers on local government revenue effort are assessed based on the sign of its estimated coefficient: positive for stimulative effects and negative for substitutive effects.

Data Sources and Scope of Study

As the province, a geographic or territorial area, is the unit of analysis, the provincial, municipal and city governments in a province are treated as an aggregate unit as if they were a "jurisdiction"[2]. This parallels many studies, mostly of the United States, which use the state as the unit of analysis. Weist (1991) noted that this standard approach in the fiscal capacity literature has developed because fiscal capacity depends on the inherent resources of a geographic area and not a particular level of government. It also provides a way of dealing with the problem of accounting for the variation in access to revenues and responsibility for providing public services by different levels of government.

Two major types of data are used in the study. The first type of data consists of local government financial statistics for 1991, before the new local government

[2] The cities and municipalities would have been equally interesting units for analysis, however, most of the socioeconomic data were only available at the provincial level. There were no fiscal data at barangay level, hence they were excluded in the analysis.

took effect. It would have been preferable to use data reflecting the legislative changes, but the only data available are for 1992, the first year of implementation. Given the confusion involved in the transition, the 1992 financial statistics would not accurately reflect local government behaviour. Thus, 1991 financial data was chosen as the base.

The local government financial data were derived from the working papers used to prepare the annual reports of the Commission on Audit. The working papers contain consolidated statements of revenues and expenditures of provinces and cities, based on audited trial balances submitted by local treasurers. The working papers of municipalities are reported by provincial aggregates. Sixty-seven out of 75 provincial working papers were available for all three local government levels. The consolidated working papers of the 85 municipalities in the five provinces of Region XI (Southern Mindanao), and the eight municipalities in the province of Tawi-tawi are missing. Extracting the data directly from the trial balances of these municipalities entails a tedious process, thus, they were excluded from the study. The other two provinces which were excluded due to unavailability of data were Basilan, where the documents were burned in a provincial government fire, and Lanao del Sur which did not submit the pertinent reports.

Two of the 67 provinces included in the study, namely Biliran and Guimaras, were former sub-provinces of Leyte and Iloilo, respectively. Most data available from government agencies incorporated the sub-provinces with their respective mother provinces. Biliran and Guimaras were therefore treated as if they were still part of their mother provinces. Metro Manila, which consists of 4 cities and 13 municipalities, was treated as another province. Thus there is a total of 66 sample observations, a number representative of the entire local government sector.

The second type of data consists of socioeconomic and demographic data which are based on the Family Income and Expenditure Survey, Census Facts and Figures, Census of Establishments and Population Census of the National Statistics Office. The specific data, referring mainly to 1990, their limitations and respective sources are reported in the subsequent chapters.

Summary

This chapter presents the conceptual framework and methodology for assessing whether central government transfers to local governments in the Philippines promote equity and local resource mobilisation. The equity of central transfers is evaluated in relation to local governments' fiscal capacities, as measured by the expenditure need–revenue capacity gap, or fiscal gap. The fiscal gap, unlike the budget deficit, abstracts from fiscal choice variables since only those differences which arise from factors outside the control of local authorities are regarded as causes of inequity. The fiscal gap is measured using a two-stage approach, beginning with the measurement of revenue capacity followed by that of expenditure needs.

The study took note of the various methodologies used in the measurement of the revenue capacities—which include the income based approach, the representative revenue system approach used by the United States Advisory Council for Intergovernmental Relations, and the multiple regression approach—citing their strengths and weaknesses. The study opted for a different approach based on the random coefficient regression model used in the estimation of firm potential output and efficiency. A survey of literature on the measurement of expenditure needs, consisting mostly of expenditure determinants studies of state and local governments of the United States, was also made. To measure expenditure needs, the study adopted the median voter model developed by Bradbury, *et al.* (1984), which provides a useful framework for segregating the effects of 'cost factors' beyond government's control from other factors (e.g. revenue capacity, transfers, and preferences) affecting government expenditures.

Based on the fiscal gap, the equity of central government transfers were then assessed. The transfers were considered equitable if they reduce or minimise disparities in fiscal gaps among government units, notably, by giving greater amounts to those with lower tax bases (revenue disadvantage) and/or greater expenditure needs (cost disadvantage). Two summary measures of equity were used in this regard, namely: the Spearman's Rank Correlation Coefficient and the Schutz Coefficient of Inequality.

In assessing whether central government transfers promote local government revenue effort, the study regressed the revenue effort estimated from the random coefficient regression model on central government transfers and other socioeconomic factors acting as control variables. Central government transfers were deemed to be stimulative if its estimated coefficient is positive, and substitutive if its coefficient is negative. This approach is more direct than the expenditure determinants approach which yields ambiguous results in the presence of local government savings.

The province, a geographic or territorial area, is used as the unit of analysis. As such, the provincial, municipal and city governments in a province are treated as an aggregate unit as if they were one jurisdiction.

Appendix 5.1

The Random Coefficient Regression Model

The linear model most frequently used in statistical application may be expressed as

$$y_i = x_i'\beta_i + \varepsilon_i \qquad i=1,\ldots,N \tag{1}$$

where:

y_i – an observed random variable called the dependent variable;

x_i – a K x 1 vector of known non-random values of the independent variables;

β_i – a K x 1 vector of unknown constants or coefficients to be estimated; and

ε_i – represents the error term which is generally assumed to be independently and identically distributed with mean zero and finite variance.

As pointed out in several studies (Kalirajan and Obwona 1994a, 1994b; Kumbhakar, 1988; Hildreth and Houck, 1968), the constancy of the β coefficients across all observations is questionable in certain situations. In the case of production functions, for example, it is noted that outputs may respond variably to the same level of inputs due to different methods of input application, varying climatic conditions, and other factors which cannot be observed or readily quantified and explicitly incorporated in a model.

Thus, in certain situations it may be more accurate to consider the coefficients as random or varying across observations, that is:

$$\beta_i = \bar{\beta} + u_i \tag{2}$$

The actual response rates β vary from their respective mean response rates $\bar{\beta}$ by a vector of random errors u_i. It is assumed that the u_i's are independently and identically distributed with:

$$E(u_i) = 0 \tag{3}$$

$$E(u_{ki}u_{lj}) = \begin{cases} \alpha_{kk} & if\ k = l\ and\ i = j \\ 0 & otherwise \end{cases} \tag{4}$$

In more compact notation, Equations (1) and (2) can be written for all N observations as

$$Y = X\bar{\beta} + w \tag{5}$$

where

$$w = Xu = D_x u \tag{6}$$

and Y is a N x 1 vector; X is a N x K matrix of stacked X_i'; D_x is a N x NK diagonal matrix of X_i'; and u is an NK x 1 vector of u_i's.

Note that the additive equation error term ε_i drops out of the equation since when $x_{1i} = 1$, ε_i cannot be distinguished from the randomly varying intercept.

We now move into the estimation of the mean response vector $\bar{\beta}$. Ordinary least squares provides an estimate of $\bar{\beta}$ given by

$$\tilde{\bar{\beta}} = \left(X'X\right)^{-1} X'Y \tag{7}$$

$\tilde{\bar{\beta}}$ is an unbiased estimate of $\bar{\beta}$, however, it is generally inefficient. An estimator of $\bar{\beta}$ which is best, linear and unbiased (BLU) is given by

$$\hat{\bar{\beta}} = \left(X'\Theta^{-1}X\right)^{-1} X'\Theta^{-1}Y \tag{8}$$

where Θ represents the variance matrix of w. Since Θ is unknown, it is necessary to first estimate the individual elements of Θ to derive the estimator $\hat{\bar{\beta}}$.

Based on equation (6) the individual elements of w may be written as

$$w_i = \sum_{k=1}^{K} X_{ik} u_{ik} \tag{6a}$$

From equation (4) and (6a), the individual elements of Θ may be written as

$$\theta_{ij} = E(w_{ki} w_{lj}) = \begin{cases} \sum_{k=1}^{K} \alpha_{kk} X_{ik}^2 & \text{if } k = l \text{ and } i = j \\ 0 & \text{otherwise} \end{cases} \tag{9}$$

The values of the diagonal elements of Θ, thus, depends on the α's which are also unknown. Hildreth and Houck (1968) suggested several ways of estimating the α's, the basic procedure of which is as follows:

Let the vector of residuals of the ordinary least squares be:

$$r = Y - X\tilde{\tilde{\beta}} = Mw \tag{10}$$

where M = (I-X(X'X)$^{-1}$X) is symmetric, idempotent and rank T-K. The variance matrix of r is

$$E(rr') = E(Mww'M) = M\Theta M \tag{11}$$

For convenience, the following notational convention is used. If A is any matrix, $\dot{A}$ denotes the matrix obtained from A by squaring each element $\left(\dot{a}_{ij} = a_{ij}^2\right)$. A_i denotes the ith row of A. If P is any diagonal matrix, $\bar{\rho}$ denotes the column vector whose elements are the respective diagonal elements of P($\bar{\rho}_i = \rho_{ii}$).

Following this notational convention, Equation (11) may be written as

$$E\dot{r} = \dot{M}\bar{\theta} \tag{12}$$

Now, let

$$\eta = \dot{r} - E\dot{r} \tag{13}$$

Then

$$\dot{r} = E\dot{r} + \eta \tag{14}$$

$$= \dot{M}\bar{\theta} + \eta \tag{15}$$

$$= \dot{M}\dot{X}\bar{\alpha} + \eta \text{ by Equation (11)} \tag{16}$$

or

$$\dot{r} = G\bar{\alpha} + \eta \tag{17}$$

where

$$G = \dot{M}\dot{X}.$$

Equation (17) has the familiar form of a linear equation model, hence $\bar{\alpha}$ can be estimated using least squares, and has the solution:

$$\tilde{\tilde{\alpha}} = \left(G'G\right)^{-1} G'\dot{r} \tag{18}$$

Hildreth and Houck (1968) showed that $\tilde{\tilde{\alpha}}$ is a consistent estimate of $\bar{\alpha}$. However, it has an undesirable feature as an estimator of variances; that is, its elements may be negative. This may not be a problem in the case of large samples, since $\tilde{\tilde{\alpha}}$ is a consistent estimator; the probability of getting negative estimates of the variances tends to zero as

the sample size increases. However, in small samples wherein the estimates obtained have larger standard errors, the probability of getting negative estimates becomes substantial. A remedy would be to assign a value of zero to the negative elements of $\tilde{\tilde{\alpha}}$. This would lower its mean square error, however, it would bias $\tilde{\tilde{\alpha}}$.

A consistent and more efficient estimate of $\bar{\alpha}$ is presented by Singh *et al.* (1976). They extended Hildreth and Houck' s procedure to derive estimates of the variance-covariance matrix of the residual η in equation (17). They noted that in the covariance matrix, $E(\eta\eta')$, the off diagonal elements are of lower magnitude than the diagonal elements, and that in general:

$$E\eta\eta' = 2\dot{\psi} \qquad (19)$$

where $\dot{\psi}$ is the NxN matrix of the squared elements of $\psi = M\Theta M$.

Using $\tilde{\tilde{\alpha}}$ based on Equation (18) and $E(\eta\eta')$ based on Equation (19), Singh *et al.* derived a generalized least square estimator of $\bar{\alpha}$ given by

$$\hat{\tilde{\alpha}} = \left(G'\dot{\psi}^{-1}G\right)^{-1} G'\dot{\psi}^{-1}\dot{r} \qquad (20)$$

which minimizes the probability of getting negative estimates of variances. Based on Equation 9, $\hat{\tilde{\alpha}}$ can be used to obtain $\hat{\Theta}$ an estimator of Θ, which can then be used to derive an estimate of the mean response coefficient:

$$\hat{\tilde{\beta}} = \left(X'\hat{\Theta}X\right)^{-1} X'\hat{\Theta}^{-1}Y \qquad (21)$$

Given $\hat{\tilde{\beta}}$, the following individual response coefficient estimates can then be obtained

$$\hat{\beta}_i = \hat{\tilde{\beta}} + \hat{\Lambda}_u X_i'\left[X_i\hat{\Lambda}_u X_i'\right]^{-1}\left(Y_i - X_i\hat{\tilde{\beta}}\right) \qquad i=1,\ldots,N \qquad (22)$$

where $\hat{\Lambda}_u$ is a diagonal matrix consisting of the diagonal elements $\left(\hat{\tilde{\alpha}}_{11},\ldots,\hat{\tilde{\alpha}}_{KK}\right)$ of the variance matrix $\hat{\Theta}$ (Kalirajan and Obwona, 1994b).

As mentioned in Kalirajan and Obwona (1994b), the applicability of the random coefficient model to the data can be examined using the likelihood ratio test proposed by Swammy (1971). If the parameter coefficient are random, then Λ_u will contain non zero

elements. Thus, the test for randomness is H_0: $\Lambda_{ii}=0$ and H_a: $\Lambda_{ii}\neq 0$. The test statistic is based on Swammy's test with one period only.

Estimating the potential maximum output and firm's efficiency

The random coefficient regression model not only provides BLU estimates of the coefficients β_i's. More importantly, it provides a way of estimating production functions which imply a notion of maximality.

The maximum values of the individual coefficients:

$$\beta_k^* = \max_i \left(\beta_{ki}\right) \qquad i=1,\ldots,N;\ k=1,\ldots,K \qquad (23)$$

may be viewed as representing the maximum production response coefficients obtainable by following the 'best practice technique' of applying the inputs. The ratio of actual response coefficient to the maximum response coefficient for each observation can be used as a measure of the input specific technical efficiency of a firm, that is, how efficient a firm is in utilizing a particular input (Kalirajan and Obwona, 1994a, 1994b).

Based on the maximum values of the coefficients (β_k^*'s), the frontier production function can be estimated as follows:

$$Y_i^* = \sum_{k=1}^{K} \beta_k^* X_{ik} \qquad i=1,\ldots,N \qquad (24)$$

A measure of the overall production efficiency of each individual firm can be obtained by comparing its actual output Y_i with its estimated potential output Y_i^*, that is, $\frac{Y_i}{Y_i^*}$.

A measure of allocative efficiency, or the extent of under–utilization or over–utilization of the various inputs or factors of production can also be defined by the ratio $\frac{X_{ki}}{\hat{X}_{ki}}$, where the $\hat{X}_{ki}$'s represent the optimal input levels derived from the first order condition of the profit maximization problem, given β_k^*'s (Kalirajan and Obwona, 1994b).

Computer Program TERAN

The generalized least squares estimates of the parameters of the random coefficient regression model described above involves an iterative procedure which can be very time consuming. The TERAN program written by Zhang and Obwona (1993) was designed to make the estimation procedure easier. The program is written in standard Fortran 77 for use in UNIX and VAX based mainframe computers and IBM compatible PC.

TERAN Version 1.0 is designed to estimate a Cobb-Douglas production function in logarithms. It follows a six step procedure in estimating the firm specific random coefficients, the frontier coefficients, and the technical and allocative efficiencies. The six steps are:

1. Estimation of the mean response coefficients.
2. Estimation of the linear unbiased predictors of the residuals and the variance matrix.
3. Estimation of the firm-specific response coefficient vectors .
4. Calculation of the input-specific technical efficiencies.
5. Calculation of the firm-specific frontier output, and firm specific technical efficiencies.
6. Calculation of specific allocative efficiencies, which are optional, and can be calculated only for panel data.

6
Local government revenues

Introduction

Local governments derive their income from both local and external sources. This chapter focuses on local or own–source revenues. Its main objective is to assess revenue capacities and efforts of local governments. Section 2 presents the legal revenue raising powers of local governments. Section 3 analyses the growth and composition of local government revenues during the period 1986–92. Section 4 examines the variation in revenues across local government units using the province as the unit of analysis. Section 5 looks into the socioeconomic characteristics of the various provinces, which are viewed *a priori* as being related to revenue capacities. Section 6 builds on the discussions in the preceding sections, and empirically examines revenue capacities and efforts of local governments using the random coefficient regression model. The chapter concludes with a summary of the significant results and findings on revenue capacity and efforts of local governments.

Legal Framework of Revenue Raising Powers of Local Governments

The revenue raising powers of local governments are defined by laws enacted by the central government. Until 1991, Presidential Decree No. 464 (1974), also known as the Real Property Tax Code, provided the framework for local government taxation of real properties, their most important form of taxation. Tax on real property consists of: basic real property tax, special education tax, idle land tax, and special assessment tax.

The basic real property tax is an *ad valorem* tax which is levied on land, machinery, and buildings and other improvements. The tax liability is computed on the assessed value of property, which is a fraction of fair market values. The Real Property Tax Code prescribes the range of assessment levels and tax rates that could be imposed by local governments. The assessment levels vary depending on the use of property. Residential properties carry the lowest assessment levels, followed by agricultural, and commercial and industrial properties. For buildings and other improvements, the

assessment levels vary progressively with market values. Provinces and municipalities outside Metro Manila could impose tax rates not lower than 0.25 of 1 per cent, but not higher than 0.5 of 1 per cent of the assessed property value. For cities, and municipalities in Metro Manila, the prescribed minimum and maximum rates were 0.5 of 1 per cent and 2 per cent, respectively.

The proceeds of the tax collected by provincial and municipal governments in each municipality were shared as follows: 45 per cent to the provincial government, 45 per cent to the municipal government, and 10 per cent to component *barangays*. The taxes collected by the city government, which are administratively independent of the province, were shared with its component *barangays*; the former received 90 per cent and the latter received 10 per cent.

The Special Education Tax, earmarked for educational expenditures, consisted of an additional one–per cent levy on the assessed value of real properties. It used to be a central government imposition collected by local governments. Twenty per cent of its proceeds accrued to the national treasury. The rest went to the local government unit where the tax was collected.

Local governments could impose an additional tax on idle lands at an annual rate not exceeding two per cent of the assessed value. They could also impose special levies on properties benefited by national government projects and public works.

Presidential Decree No. 231 (1973), also known as the Local Tax Code, codified all the other tax and revenue raising powers of local governments. It provided a set of taxes exclusive to each local government level, and a set of charges and fees that could be imposed at all levels.

For the province, the most significant taxes were: transfer tax on property ownership, occupation tax, printing and publication tax, franchise tax, sand and gravel tax, amusement tax on admission, tax on peddlers, and tax on delivery trucks and vans. The provincial governments were also authorised to charge fees for sealing and licensing of weights and measures, and rentals for the use of municipal waters and rivers.

Municipal governments were assigned the business and license tax, which ranked second to the real property tax in terms of yield. Resembling a license paid for the

privilege of doing business in the locality, it consists of a gross receipt tax with rates varying according to type of business and total sales, and an annual fixed tax levied without regard to the volume of sales (Bahl and Schroeder, 1983c). In addition to the business and license tax, the Local Tax Code authorised municipal governments to collect a wide array of .fees and charges, for example, building permit fees, marriage fees, and cart and sledge registration fees, in relation to their regulatory functions.

City governments have wider taxing powers than provincial and municipal governments. Being administratively independent of the province, they do not share in taxes collected by the provincial government, and have to render the services provided by both provincial and municipal governments in their area. Thus, they are given taxing powers of provinces and municipalities.

Barangays may tax stores or retailers with fixed business in the locality. It may collect fees in connection with barangay owned properties; commercial breeding of fighting cocks, cockfights and cockpits; places of recreation; and billboards, signboards, neon signs and advertisements. A barangay clearance is required before a city or municipality can issue any business license or permit.

In addition to the above taxes, the Local Tax Code authorised all local government levels to impose the following fees and charges: market fees, slaughter fees, public utility charges, tuition fees on locally operated schools, toll fees, and other charges on services rendered. Local governments were also deputised by the central government to collect a residence tax. The proceeds of the residence tax accrued to local governments, except for five per cent remitted to the national treasury to defray the costs of printing residence certificates.

Republic Act No. 7160 or Local Government Code of 1991 modified and incorporated the provisions of the Real Property Tax Code and the Local Tax Code. The power to impose real property tax was limited to provincial, city, and municipal governments within Metro Manila. Municipal governments outside Metro Manila which serve as collection agents of the provincial government, would nonetheless still receive a share of real property tax collected in their jurisdiction. Of the real property tax collected in the municipality, 35 per cent went to the provincial government, 40 per cent to the

municipal government, and 25 per cent to the component *barangays*. In the cities which are administratively independent of the province, the city government retained 70 per cent of the revenues, and its component *barangays* received 30 per cent. The same applied to municipalities in Metro Manila. The Special Education Tax, which used to be a national tax whose proceeds were shared with the central government, was transformed into a purely local tax.

The Local Government Code of 1991 amended the tax rates and assessment levels for real properties. For the province, the tax rate ceiling was increased to one per cent of assessed property value, that is, the equivalent of the combined rate ceilings of provinces and municipalities under the previous law. For cities and municipalities in Metro Manila, the maximum rate was increased to two per cent. The increase in allowable rates, however, was not accompanied by similar changes in the assessment levels. In general, the assessment levels were decreased, particularly for properties used for residential purposes.

Table 6.1 **Comparison of prescribed assessment levels for basic real property tax, Presidential Decree No. 464 (1974) and Republic Act. No. 7160 (1991), Philippines** (per cent of fair market value)

Type/Use of property	Real Property Tax Code (Presidential Decree No. 464)	New Local Government Code (Republic Act No. 7160)
Land		
Residential	30	20
Agricultural	40	40
Commercial/Industrial	50	50
Timberland	n.a.	20
Machineries		
Residential	70	50
Agricultural	60	40
Commercial/Industrial	80	80
Buildings and other structures		
Residential	15–80	0–60
Agricultural	40–80	25–50
Commercial/Industrial	50–80	30–80
Timberland	n.a.	45–70

Sources: Philippines, 1974. *Presidential Decree No. 464* (1974)
Philippines, 1991. *Republic Act No. 7160* (1991)

The Local Government Code of 1991 introduced minor modifications to the tax assignments prescribed by the Local Tax Code. The list of provincial taxes and charges was maintained except for fees for the licensing of weights and measures, and rentals for the use of municipal waters which were transferred to municipal governments. Provincial governments lost their share in the proceeds of residence/community taxes which were transformed from a central government tax to a purely municipal/city tax. Municipal governments maintained control over all taxes previously assigned to them. In addition they would receive a share in provinces' sand and gravel tax, but would lose their share in the occupation tax whose proceeds now accrue solely to provincial governments. As in previous laws, city governments were authorised to impose both provincial and municipal taxes.

In general, the prescribed tax rate ceilings under the new Local Government Code were higher. Furthermore, local governments were authorised to increase the prescribed rates, provided that increases were made not more often than once every five years and did not exceed 10 per cent of previous rates. In the case of fees and charges, all the prescribed ceilings were removed, giving local governments greater flexibility.

Local Government Revenues: trends and patterns

Total local government income, excluding borrowing and extraordinary receipts[1], had grown at an average annual nominal growth rate of 20 per cent from P8.6 billion in 1986 to P27 billion in 1992. However, this growth was mainly accounted for by transfers from the central government. Transfers were around one–half of local government income. Central government transfers had an average growth rate of 24 per cent, exceeding the growth rate of total income. Income from local sources increased by an average rate of only 17 per cent.

[1]Extraordinary receipts consist of irregular advances, loans and transfers from other local government units and government corporations.

Table 6.2 **Regular sources of local government revenues, Philippines, 1986–92**

	Current amount (billion pesos)							Average annual growth rate[1] (%)
	1986	1987	1988	1989	1990	1991	1992	
Local sources	4.6	4.9	5.5	7.8	9.3	10.5	11.0	16.7
External sources	4.0	4.0	7.8	7.4	9.7	12.9	16.0	24.0
Total income	8.6	8.9	13.3	15.2	19.0	23.4	27.0	20.4

	Distribution (per cent)							
	1986	1987	1988	1989	1990	1991	1992	Average
Local sources	53.7	55.0	41.3	51.1	48.9	45.0	40.9	48.0
External sources	46.3	45.0	58.7	48.9	51.1	55.0	59.1	52.0
Total income	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.0

Note: [1]Estimated using ordinary least squares regression

Source of basic data: Philippines, Commission on Audit, 1986–92, *Annual Reports 1986-92*.

Real property taxes were the major sources of locally generated revenues. In 1986 real property taxes accounted for 45 per cent of local source revenues, and 24 per cent of total income. However, there was a general downward trend in their share of local government income. From 1986 to 1992, while real property taxes grew annually at only an average rate of 15 per cent; their share in locally generated revenues and total income plummeted to 39 per cent and 16 per cent, respectively in 1992.

Table 6.3 **Tax and non–tax sources of local government revenues, Philippines, 1986–92[1]**

	Current amount (billion pesos)						Average annual growth rate[2] (%)
	1987	1988	1989	1990	1991	1992	
Tax income	3.4	3.9	4.7	6.0	7.0	7.7	15.8
Property taxes	2.1	2.3	2.7	3.7	4.3	4.3	14.6
Taxes on goods and services	1.2	1.4	1.7	2.0	2.4	3.0	17.3
Other taxes	0.2	0.2	0.2	0.3	0.3	0.4	18.7
Non–tax income	1.5	1.7	3.1	3.3	3.6	3.4	18.7
Operating and service income	1.3	1.5	2.0	2.6	2.9	2.8	16.5
Income from public enterprises	-	-	0.1	0.1	0.1	0.2	45.1
Others	0.2	0.2	1.0	0.6	0.6	0.4	30.1
Total	4.9	5.5	7.8	9.3	10.5	11.0	16.7

	Distribution (per cent)						
	1987	1988	1989	1990	1991	1992	Average
Tax income	70	70	60	65	66	70	67
Property taxes	43	41	35	40	41	39	41
Taxes on goods and services	23	25	22	22	23	27	24
Other taxes	3	3	3	3	3	4	3
Non–tax income	30	30	40	35	34	30	33
Operating and service income	27	26	26	27	27	25	26
Income from public enterprises	0	0	1	1	1	2	1
Others	3	3	13	6	6	4	5
Total	100	100	100	100	100	100	100

Note: [1]See Appendix 6.1 for more details.
[2]Estimated using ordinary least squares.

Source: Basic data from Philippines, Commission on Audit, 1986–92, *Annual Reports, 1986–92*.

A major reason for the poor growth of property tax revenues is the undervaluation of real properties. Being an *ad valorem* tax, its effectiveness depends on the accuracy of valuation (Tan, 1993). As pointed out in several studies (Tan, 1993; Bahl and Schroeder, 1983b; and National Tax Research Center, 1976) property value in the Philippines is grossly understated.

Many local governments do not have basic tools like tax maps which are necessary to establish a complete inventory of real properties. Records management are poor, and local assessors are inadequately trained (Lamberte, Manasan and Llanto, 1993; National Tax Research Center 1976).

Under–assessment of property values by local governments is aggravated by central government orders postponing reassessment and/or revaluation of properties, which should have been undertaken once every three years under the Real Property Tax Code. The last general revision of land values was in 1983 (Lamberte, Manasan and Llanto, 1993). This is critical to the growth of property tax revenue. Since tax rates cannot be increased beyond the ceilings prescribed in the Code, the principal source of revenue growth is in the tax base which come about through the reassessment of real properties (Bahl and Schroeder, 1983b).

The real property tax base is also eroded by central government–mandated exemptions. The Real Property Tax Code exempts government owned and controlled corporations, and certain private properties (classified as religious and charitable institutions, preferred investments, and low income individuals) from payment of property taxes. Assessed value of exempted properties averaged 19 per cent of total assessed value during the period 1986–92.

The growth of real property tax revenue has also been hampered by poor collection. The collection rate, that is, the ratio of actual collections to estimated collectibles, averaged 50 per cent. Such mediocre performance is attributed to inefficient record keeping, tax payers' low consciousness of their obligation, and failure to impose penalties on delinquent tax payers.

Table 6.4 **Collection efficiency of local governments for basic real property tax, Philippines, 1986–92** (per cent)

	1986[a]	1987[b]	1988	1989[c]	1990[c]	1991[c]	1992[c]	Average
Province and municipality	49.8	49.6	49.4	55.9	53.6	54.1	44.3	50.9
City	53.4	56.7	60.7	61.0	63.3	65.1	56.4	59.5
All local government levels	51.4	52.8	54.3	58.2	57.7	58.9	49.7	54.7

Note: [a] Provinces of northern Samar and Tawi-tawi not included due to lack of data
[b] Provinces of Sulu and Tawi–tawi not included due to lack of data.
[c] Province of Lanao del Sur not included due to lack of data.

Source: Philippines, Commission on Audit, 1986–92, ***Annual Reports, 1986–92.***

Tan (1993) notes that the success of decentralisation depends heavily on the effectiveness of the real property tax administration. Property tax represents a significant revenue base whose potential has not been utilised on a par with other countries.

Increasing revenue from property taxes is essential. Tax on land, for instance, is one of a very few taxes which has a potentially desirable effect both on equity and efficiency. Given a fixed supply of land, the full burden of a land tax is borne by the owner—the optimal use of the land remains unchanged though its value falls. Furthermore, the reduction in the capitalised value of land resulting from the tax tends to discourage wealth holding in an idle form (Tan, 1993).

Because the structure of the real property tax is defined under various laws, particularly the new Local Government Code, greater revenue collection efficiency and equity suffer. Assessment rates on all types of properties used for residential purposes were reduced under the Code. In 1992, when the new Code first took effect, property tax revenues increased by less than 1 per cent compared to their annual average growth rate of 15 per cent during 1986–1992. Thus, pending a general revision of the schedule of fair market values of properties and/or new local ordinances levying higher tax rates, there could be a reduction in property tax revenues. Moreover, the lower assessment levels on properties used for residential purposes, relative to properties used for agricultural, commercial and industrial purposes, could encourage their shift to the former uses and discourage their use for the latter uses, resulting in productivity loses (Tan, 1993).

Taxes on goods and services represent the second category of local taxes. This category includes business taxes and licenses, which are the second most important local government taxes, and a number of minor local taxes (See Appendix 6.1). From 1986 to 1992, taxes on goods and services performed only marginally better than real property taxes with an average annual growth rate of 17 per cent. Their share in total local income also stagnated, decreasing by one per cent during the period.

Like real property taxes, the taxes on goods and services are highly regulated. The central government prescribes the rates that can be imposed by local governments. Thus, revenue growth depends mainly on increases in the revenue bases and collection efficiency. However, the determination of the tax liabilities of business establishments is problematic due to the difficulty of obtaining accurate estimates of annual gross receipts. Local treasurers depend mainly on business owners' sworn statements of gross receipts which can be severely under–reported (Bahl and Schroeder, 1983c).

The revenue growth of business taxes and licenses is also hampered by low elasticity resulting from the use of unit tax rates instead of *ad valorem* rates (Manasan, 1992), and the regressive structure of tax rates (Bahl and Schroeder, 1983c). The amount of tax liability is fixed. For example it is P150 a year for establishments with gross sales less than P10,000 and P200 a year for those with gross receipts more than P10,000 but less than P15,000. This makes the taxes less responsive to changes in gross receipts than those based on percentage of receipts. Effectively, the tax structure also charges lower rates for businesses with higher levels of gross receipts. Revenue growth would have been more responsive to growth in gross receipts if the effective tax rates were progressive or simply flat.

Non–tax revenues accounted for an average annual share of 33 per cent of locally generated revenues during the period 1986–1992. Their growth was higher than tax revenues during this period, and in previous years. Manasan (1992a) noted that the contribution of operating and service income was only 16 per cent in 1976. Although its growth stagnated in 1991 and 1992, an average share of around 26 per cent during the period 1986–1992 was still an improvement. She explained that this could be attributed to fewer central government restrictions on service or user charges. In principle, it is

politically and administratively easier to increase these rates and collect the revenues, because of the closer link to the services provided.

The cities generated the highest share in revenue followed by municipalities and provinces. There were no corresponding data for the barangays. The cities generated an average of 43 per cent of local government income from 1986 to 1992, while the municipalities and the provinces accounted for 38 and 19 per cent, respectively. The municipalities, however, had the highest growth rate in revenues. Their share in local government revenues grew from 37 per cent in 1986 to 42 per cent in 1992. The share of municipal governments in total local revenues in 1992 surpassed the share of cities, albeit by a marginal amount.

Table 6.5 **Revenue breakdown by local government level, Philippines, 1986–92**

	Current amount (billion pesos)							**Average annual growth rate**[1] (per cent)
	1986	1987	1988	1989	1990	1991	1992	
All levels	4.6	4.9	5.5	7.8	9.3	10.5	11.1	16.7
Province	0.8	0.9	0.9	2.1	1.8	1.9	1.9	16.7
Municipality	1.7	1.9	2.1	2.6	3.5	4.1	4.7	18.4
City	2.1	2.2	2.5	3.0	3.9	4.5	4.6	15.2
	Distribution (per cent)							
	1986	1987	1988	1989	1990	1991	1992	Average
All levels	100	100	100	100	100	100	100	
Province	18	18	17	27	20	18	17	19
Municipality	37	38	39	34	38	39	42	38
City	45	45	44	39	42	43	41	43

Note: [1]Estimated using ordinary least squares.

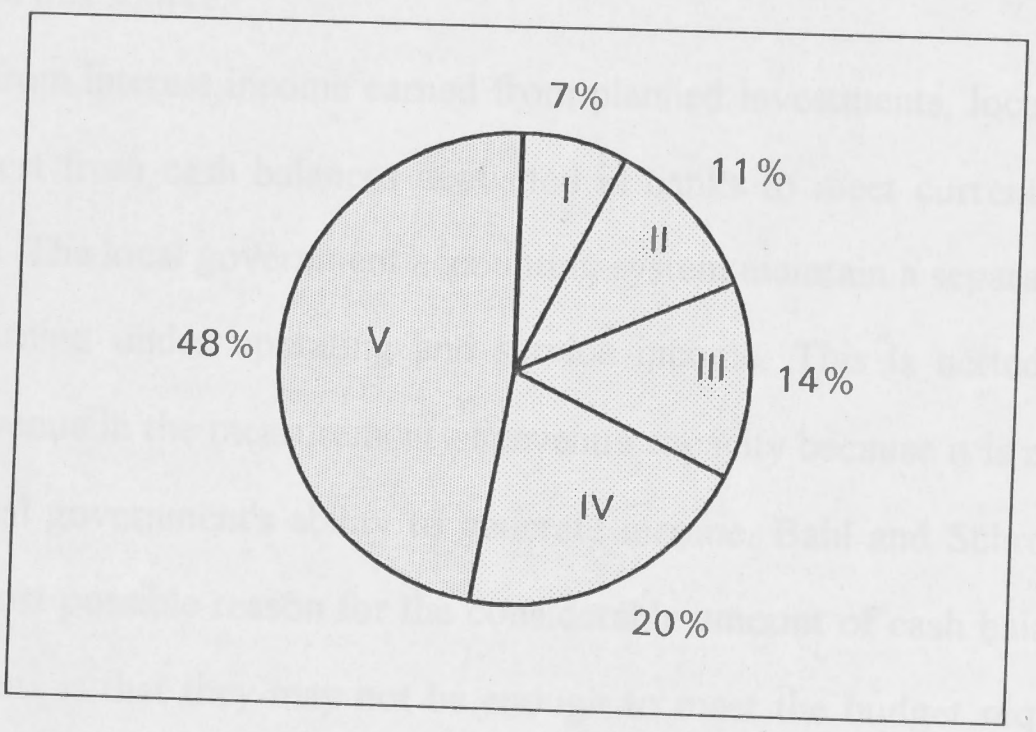
Source: Philippines, Commission on Audit, 1986–92. *Annual Reports 1986–92.*

The cities' domination of locally generated revenues is not surprising; they have greater taxing powers and more productive revenue bases than either provinces or municipalities. It is widely held that the revenue base of a government unit is directly related to the level of economic development in its area. Cities are by definition centres of economic and commercial activities. Most municipalities are rural, and their economic activities are largely informal and agricultural. As economic development becomes more evenly spread, it is expected that the cities' dominance is likely to diminish. This is indicated by the growing contribution of municipalities to local government income.

Variations in Local Government Revenues

Per capita own–source revenues of local governments varied considerably, and were distributed unequally across provinces. As Figure 6.1 illustrates, 14 provinces belonging to the highest quintile accounted for 48 per cent, almost half of total per capita local government revenues, while the remaining 52 provinces accounted for 52 per cent. The group of provinces in the lowest quintile generated only seven per cent of per capita local government revenues[2].

Figure 6.1 **Provincial distribution of local government own–source revenue by quintile[1], 1991**



Note: [1] Quintiles are arranged from poorest to richest.
Source: Basic data based on Philippines, Commission on Audit working papers (1991)

Table 6.6 further illustrates the variability in per capita local government revenues across provinces. Metro Manila had the highest per capita tax revenue amounting to P407, while Sulu had the lowest at only P6. In terms of non–tax revenues, Zambales ranked first with P379 per capita, and Masbate ranked last with P5 per capita. Manila had P107 per capita, ranking fifth in this revenue source. Overall, Metro Manila had the highest per capita revenue, amounting to P514. This was 5 times the mean per capita

[2]See Appendix 6.2 for the list of provinces.

revenue of P105, and 40 times the lowest per capita revenue generated in Sulu, which amounted to only P13.

Table 6.6 shows the different sources of local government revenues and their variability across provinces. The coefficient of variation, the ratio of the standard deviation to the mean, provides a relative measure of the variability of the different sources of local government income across provinces. Non-tax income varies more than tax income. Income from public enterprises, which consists of interest and dividend earnings from local governments' investments in treasury notes, stocks and bonds, had the highest variability. This revenue source is accessible mainly to local governments in urban and commercial centres; most local governments in far-flung areas have virtually no income from this source.

Aside from interest income earned from planned investments, local governments also earn interest from cash balances deposited in banks to meet current expenditures, and as reserves. The local government accounting system maintain a separate account for this interest earning under operating and service income. This is netted out of local government revenue in the measurement of revenue capacity because it is not necessarily related to a local government's ability to generate income. Bahl and Schroeder (1983a) note that the most possible reason for the considerable amount of cash balances of most local governments is that they may not be enough to meet the budget requirements for the kinds of public services demanded by residents. Substantial cash balances can also arise from poor budget programming and the absence of investment opportunities.

Table 6.6 **Variability in per capita locally generated revenues, provincial level, Philippines, 1991**

Revenue sources	Maximum (pesos)	Minimum (pesos)	Mean (pesos)	Standard deviation	Coefficient of variation
Tax income	406.63	6.48	58.18	54.88	0.94
Property taxes	239.10	1.33	34.97	34.87	1.00
Taxes on goods & services	143.33	2.21	18.78	18.56	0.99
Other taxes	27.27	0.36	4.43	4.63	1.05
Non–tax income	378.95	5.03	47.04	52.82	1.12
Operating and service income[1]	361.27	3.76	31.08	44.16	1.42
Interests	62.84	0.00	8.22	10.31	1.25
Income from public enterprises	53.41	0.00	1.18	6.61	5.60
Others[2]	98.93	0.00	6.56	15.81	2.41
Total local revenues	513.63	12.85	105.22	89.99	0.86
Net local revenue[3]	483.04	12.81	90.44	79.72	0.88

Note: [1] Without interest
[2]Others consists of income earned from sale of scrap materials and fixed assets
[3]Net local revenue equals total local revenue less interest and others.
Source: Author's calculations

Provinces with high tax revenues tended to have high non-tax revenues as well. Table 6.7 shows a positive correlation among the major categories of local government revenues. The only exception are the non-tax income categories of operating and service, and public enterprises, but this is insignificant. The correlation was most significant in the two major categories of tax revenues (property taxes and taxes on goods and services).

Table 6.7 **Correlation matrix, local government revenue sources, Philippines, 1991**

	Tax revenue (TR)	Property taxes (PT)	Taxes on goods and services (TGS)	Non–tax revenue (NTR)	Operating and service income (OSI)	Income from public enterprises (IPE)
TR	1.00	0.98	0.95	0.40	0.24	0.24
PT		1.00	0.89	0.38	0.21	0.26
TGS			1.00	0.43	0.30	0.19
NTR				1.00	0.87	0.31
OSI					1.00	-0.01
IPE						1.00

Source: Author's calculations

Variation in Socioeconomic Conditions

As discussed in Chapter 5, government revenues are determined by the interaction of their revenue capacities and revenue efforts. This section analyses the socioeconomic characteristics of the various provinces, which are regarded *a priori* to be related to

revenue capacities. This analysis provides the basis for the empirical investigation in the next section, which provides estimates of revenue capacities and revenue efforts of each province.

Per capita personal income, is probably the most commonly used indicator of the revenue base of a jurisdiction. In several studies, per capita personal income is taken as a proxy for the revenue capacity of a jurisdiction. This, however, seems inappropriate in the Philippines because the jurisdictions do not have access to income taxes. Per capita personal income, moreover, excludes other potential taxable resources, such as real property which is the largest revenue base of local government in the Philippines. This underscores that per capita personal income cannot be taken as a proxy for the revenue capacity of local government. Nevertheless, per capita personal income is regarded as a major determinant of the local governments' revenue capacities, for the most obvious reason that people pay taxes out of their income (Akin, 1973). It also provides a general indicator of the level of potentially taxable economic activities in a jurisdiction.

The average family income and average per capita income are the statistics available on per capita personal income with a provincial breakdown. These statistics are based on the 1991 Family Income and Expenditure Survey of the National Statistics Office. The survey interviewed a national sample of about 26,000 households—deemed sufficient to provide reliable estimates of income and expenditure levels for each province, key cities and key municipalities.[3] The estimates included both cash and in kind income, using either market prices or farm gate prices to impute value to the latter. As with other surveys of this nature, the accuracy of these statistics may be affected by sampling and non-sampling biases. The selection of the sample may be affected by sampling variations. Respondents may not accurately remember their income for the past 6 months,[4] or may not have full information of the income earned by all members of the household. They may also deliberately under or over report their income, or they may be reluctant to reveal their true income.

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[3]There were 23 key cities out of 60 cities and 7 key municipalities out of 1,532 municipalities. Such data limitations are a major reason for choosing the province as the unit of analysis.

[4]The survey adopts the "shuttle type" of data collection wherein the samples are interviewed twice, using the half-year period preceding the interview as the reference period. This is designed to minimise the memory bias and to capture the seasonally of income pattern.

The aforementioned limitations of average family income (or per capita personal income) suggest the importance of considering other socioeconomic factors, particularly those directly related to the tax or revenue bases of local governments.

Because of its importance in tax revenue, the market value of real properties is an important determinant of revenue capacities of local governments. The revenue capacity of an area, for example, the province, in relation to this important tax would ideally be represented by the aggregated market value of properties, with different weights assigned to each type or use of property, given that each type carries different assessment levels. Furthermore, different types of properties vary in their taxability, because of the potential exportability of the tax levied (Auten, 1972a; Ladd, 1975). The burden of property tax on commercial or industrial properties, for example, could be passed on to residents of other jurisdictions through the pricing of their produce.

Unfortunately, the only data available on property values are the assessed values which are published in the Annual Report of the Commission on Audit. The assessed property values are updated annually to account for the addition of new buildings, machinery and other properties. However, they are likely to be grossly undervalued due to postponements in the reassessment of property values; the last general reassessment of land values was in 1983. The accuracy of assessment also depends on the capability and/or integrity of local assessors. Although the law provides a highly systematised set of guidelines for the valuation of properties, a considerable amount of subjectivity can enter into the determination of assessed valuation (Bahl and Schroeder, 1983b).

The gross receipts of business establishments could be another important indicator of local revenue capacity. The business license tax and fees of local governments are levied on the basis of gross receipts. These data, however, are not available. The only data that are available are the number of establishments. It is important to note that business entities with 20 or few employees, and assets not exceeding P500,000, are exempted from business license tax and fees, and other national and local taxes[5] by Republic Act No. 6810 (Magna Carta for Countryside and *Barangay*

[5]This is with the exception of real property and capital gains taxes, import duties and other taxes on imported articles.

Business Enterprises). The available data allows segregation of establishments with more than 20 employees. The limitation of using the number of establishments as a proxy for the base of the business and license tax is that it implies that all establishments generate the same amount of gross receipts.

The other socioeconomic characteristics that could affect local revenue capacities include: degree of urbanisation, industrial development, road density, number of registered vehicles, population density, population growth rate, land area, and percentage of renter households.

Urbanisation and industrial development (represented by the percentage of population in urban areas and non-agricultural occupations, respectively) are two commonly used indicators of revenue capacity, in conjunction with per capita personal income. Urbanisation and industrial development are generally associated with higher property values, and more potentially taxable economic and commercial activities belonging to the formal sector, where tax administration is easier. Thus, the higher the degree of urbanisation and industrial development of the province, the higher its revenue capacity.

Road density represents a general indicator of the level of infrastructure development in a province. Infrastructure development could significantly enhance the value of real properties. Cognisant of this, local governments are authorised to levy a special assessment tax on properties that benefit from public works. Infrastructure development could also be a catalyst of economic development. In a study of regional growth in the Philippines, Lamberte, Manasan and Llanto (1993) noted a significant positive relationship between the level of economic development and infrastructure development of the regions. Thus, it is expected that provinces with high infrastructure development, as indicated by road densities, would have greater revenue capacity.

The number of registered vehicles, particularly trucks, utility vans and tricycles, is another indicator of the level of economic activities in the province. It could not be expected, however, to have the same degree of importance in determining the revenue capacity of local governments as in other countries where vehicle registration is a state or provincial imposition. In the Philippines, vehicle registration except for tricycles, remains

a national government tax. Local governments can only impose an annual fixed tax on trucks, vans and other vehicles used by businesses.

Population density and population growth rate are demographic factors that provide complementary indicators of economic development. It is generally assumed that areas with a high population density and population growth rate are wealthier and have a faster rate of economic growth, thereby attracting investors and job-seekers. Therefore, it is expected that these factors would vary positively with local government revenue capacities.

The ratio of renter–households to total number of households in the province is a proxy variable designed to capture the exportability of local taxes. It is assumed that many of these renter-households are migrants. The 1990 Census of Population and Housing indicates that 6.8 per cent of 52 million household members had changed residence in the last 5 years: 1.7 per cent had resided in another city or municipality of the same province; 4.4 per cent, in another province and 0.1 per cent, in a foreign country. In view of the close family ties and highly personal nature of local politics in the Philippines, most of these migrants maintain their voter's registration in their original place of residence. Thus, it is expected that locally elected government officials would be more inclined to collect taxes and fees on these residents. The existence of renter-households also diffuses the burden of taxation. In the case of real property tax for example, owners and renters are likely to share in the burden, thereby, rendering them more disposed to pay their obligation.

The statistics for these socioeconomic characteristics, except for roads, registered vehicles and land area were based on *Census Facts and Figures: 1990* published by the National Statistics Office (1993). The statistics on roads and registered vehicles were derived from the 1991 administrative reports of the Department of Public Works and Highways, and the Land Transportation Office, respectively. The statistics on land area were based on the reports of the Department of Environment and Natural Resources. To enhance comparability, the socioeconomic statistics for each province were standardised, mostly by converting them into per capita terms, which is consistent with the expression used for revenues in the preceding section.

Metro Manila exhibited the highest statistics in all socioeconomic and demographic characteristics, except for population growth rate and land area. The average family income in Metro Manila was P138,256, twice the average income of all families in the Philippines, which was estimated at P65,186. Its taxable per capita assessed property value of P14,196 was 5 times the mean per capita assessed value of P2,772, and 40 times the lowest taxable per capita assessed property value in Sulu, which amounted to only P349 (see Appendix 6.3).

The considerable variations in the socioeconomic conditions of the provinces. are illustrated in Table 6.8 by the range (indicated by the maximum and minimum values) and the standard deviation of some selected statistics. The provinces differed most significantly in population density as indicated by the coefficient of variation, which is equal to 3.7. There were relatively fewer differences in average family income, with the coefficient of variation of 0.4, being half the variation in taxable assessed property value of 0.8.

Table 6.8 **Variation in sociocconomic characteristics, provincial level, Philippines, 1990 and 1991**

Characteristic	Maximum	Minimum	Mean	Standard deviation	Coefficient of variation
Ave. family income[a]	138256.40	27386.70	52112.70	20690.00	0.40
Assessed property value[b]	14196.30	348.61	2771.90	2219.90	0.80
Total road density[c]	4.80	0.16	0.70	0.60	0.86
Population in urban areas[d]	100.00	9.00	36.64	20.18	0.55
Renter households[e]	0.30	0.01	0.04	0.05	1.11
Population density[f]	12497.00	30.00	409.00	1522.00	3.72
Population growth rate[g]	5.81	0.13	2.09	1.08	0.52
Land area[h]	14896.30	209.28	3970.00	2763.30	0.70

Notes: [a] in peso units; [b]taxable property value, in pesos per capita;
[c]total road length per square kilometers [d]per cent of total population;
[e]per cent of total households; [f]population per square kilometer
[g]annual geometric growth rate between 1980 and 1990; [h] in square kilometers

Sources: Basic data for assessed property based on Philippines, Commission on Audit, 1991. *Annual Report 1991.*
Basic data for roads from the Department of Public Works and Highways.
All other data based on Philippines, National Statistics Office, *1990 Census of Population and Housing;* and Philippines, National Statistics Office, 1993, *Census Facts and Figures 1990.*

Revenue Capacity and Revenue Effort

Local government revenues, net of interest income from cash balances deposited in banks and irregular income from the sale of scrap materials and fixed assets, are used as

the basis for estimating the revenue capacities of provinces. Per capita net revenues of provinces were regressed on various socioeconomic characteristics under different functional forms using ordinary least squares. The log linear form of the regression equation yielded the best result. Of the various independent variables, only per capita assessed value, percentage of renter households, registered vehicles per capita, and business establishments per capita, appeared to have coefficients which were significant at the five per cent level (Appendix 6.4). These characteristics are the closest to the revenue bases assigned to local governments, emphasising that the importance of the assignment of revenue raising powers or access to the revenue bases. The coefficients of the significant explanatory variables were then tested if they were fixed across observations using the Random Coefficient Regression Model. The Breusch–Pagan test statistic was calculated to be 23.78 (with 4 degrees of freedom). This rejected the null hypothesis that the coefficients were fixed at the 5 per cent level of significance, justifying the use of the random coefficient regression model in lieu of ordinary least squares.

The estimated response coefficients of per capita revenue to the socioeconomic characteristics, except for the number of establishment per capita, vary for each province. Table 6.9 shows the range of estimates of the actual coefficients and mean coefficients. As the estimated revenue function is in Cobb–Douglas form, the estimated coefficients can be interpreted as either the partial elasticities of revenue to each characteristic, or the share of each characteristic in the revenue generated. On average, per capita assessed value appeared to account for the highest share of per capita revenue at 34 per cent, confirming its position as the major local government revenue source.

Table 6.9 **Range of estimates of the actual coefficients and mean response coefficients**

Variable	Range of actual coefficients	Mean coefficients
Constant	5.8369 – 6.4999	6.0204
Per capita assessed value	0.3298 – 0.3782	0.3440
Percentage of renter–households	0.1187 – 0.1248	0.1217
Registered vehicles per capita	0.2447 – 0.3338	0.3097
Establishments per capita	0.2902 – 0.2902	0.2902
Number of observations: 66		

Source: Author's calculations

The range of actual coefficients show that Zambales was the most efficient in generating revenues out of its assessed property values with a regression coefficient of 0.38. For a percentage point increase in per capita assessed value, its per capita revenue increased by 0.38 percentage points. Aklan was the least efficient in exploiting this revenue base with a regression coefficient of 0.32. Abra extracted the most revenue out its renter-households as indicated by its highest regression coefficient; Zambales did not capitalise so much on this aspect, registering the lowest coefficient. As regards registered vehicles per capita, the Mountain Province had the highest coefficient, while Bohol had the lowest. The number of establishments per capita was utilised to generate revenues at the same extent in all provinces.

The highest estimated coefficients indicate the maximum contribution of each socioeconomic characteristic to the revenues of local governments, based on their best efforts or practices. These coefficients were used to calculate the revenue capacity or maximum revenue that could be generated in each province. The revenue effort was then calculated by dividing the actual revenue with the estimated revenue capacity. Figure 6.2 and Table 6.10–11 provides a comparative summary of the actual revenues, and estimated revenue capacities and revenue efforts of the various provinces, which are reported in Appendix 6.5.

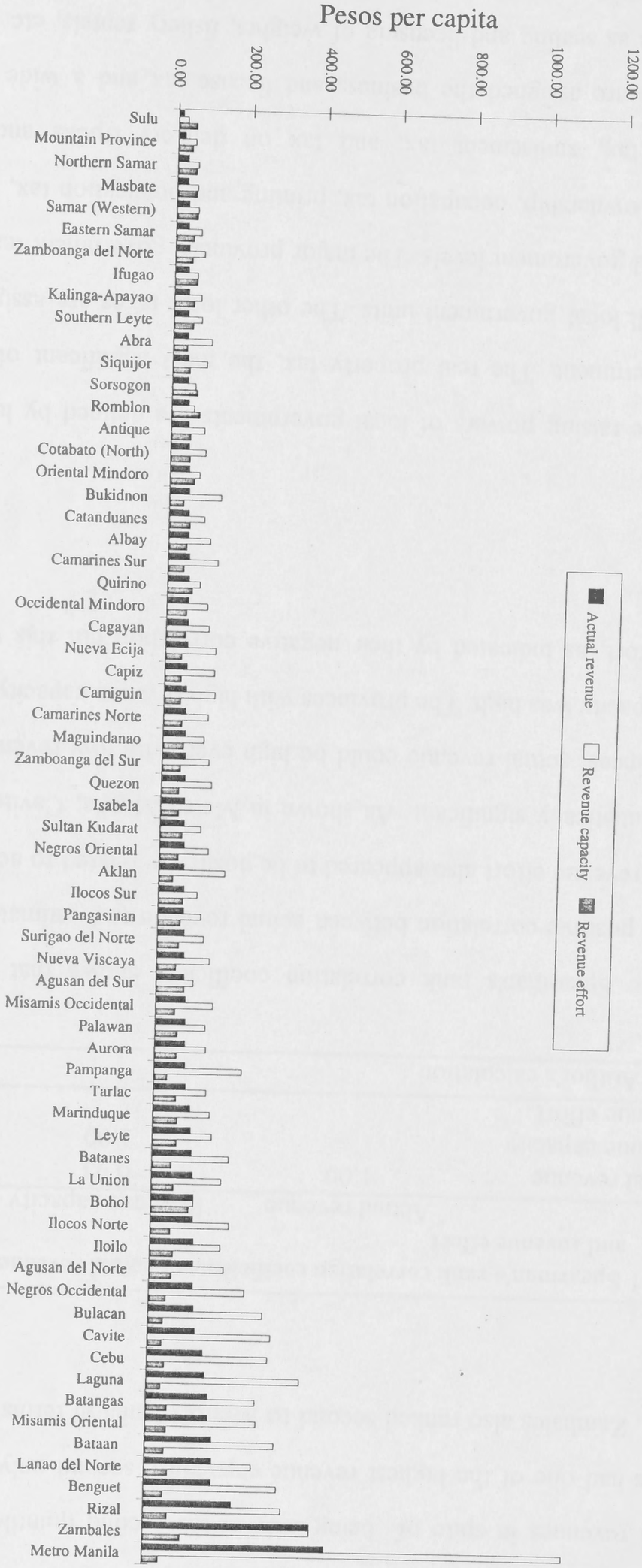
Table 6.10 **Comparison of actual revenues, revenue capacity and revenue effort**

	Actual revenue (pesos per capita)	Revenue capacity (pesos per capita)	Revenue effort (per cent)
Maximum	483	1115	100
Minimum	13	26	35
Mean	91	171	54

Source: Author's calculation

Metro Manila had the highest actual revenue of P483 per capita. This was attributed mainly to its high revenue capacity of P1,115 per capita, the highest among the provinces. Its revenue effort was very low at 43 per cent, which was in the lowest quintile, and only 8 percentage points higher than the province of Pampanga with the lowest revenue effort of 35 per cent. Bohol and Zambales ranked first in revenue effort

Figure 6.2 Actual revenue, revenue capacity and revenue effort of provinces, 1991



at 100 per cent. With its high revenue effort Bohol, managed to be in the fourth quintile in actual revenues in spite of being only in the second quintile in revenue capacity. Zambales had one of the highest revenue capacities, second only to Metro Manila. As expected, Zambales also ranked second to Metro Manila in terms of actual revenue per capita.

Table 6.11 **Spearman's rank correlation coefficients of actual revenue, revenue capacity and revenue effort**

	Actual revenue	Revenue capacity	Revenue effort
Actual revenue	1.00	0.93	0.13
Revenue capacity		1.00	-0.17
Revenue effort			1.00

Source: Author's calculation

The Spearman's rank correlation coefficient shows that there was a highly significant positive correlation between actual revenue and estimated revenue capacity. Estimated revenue effort also appeared to be positively related to actual revenue but this was not statistically significant. As shown in Metro Manila, Cavite, Laguna and some other provinces, actual revenue could be high even with low revenue effort so long as revenue capacity was high. The provinces with high revenue capacity tended to have low revenue effort, as indicated by their negative correlation but this was not statistically significant.

Summary

The revenue raising powers of local governments are defined by laws enacted by the central government. The real property tax, the most significant of all local taxes, is shared by all local government units. The other local taxes are assigned exclusively to specific local government levels. The major provincial government taxes are transfer tax on property ownership, occupation tax, printing and publication tax, franchise tax, sand and gravel tax, amusement tax, and tax on delivery trucks and vans. Municipal governments are assigned the business and license tax and a wide array of fees and charges such as sealing and licensing of weights, fishery rentals, etc. City governments are given taxing powers of provinces and municipalities. Barangays may collect taxes and

fees in connection with the properties they owned; commercial breeding of fighting cocks; billboards, neon signs and advertisements; and barangay clearance for the issuance of business licenses or permits.

From 1986 to 1992, income from local sources increased by an average rate of 17 per cent annually. Real property taxes which account for approximately 41 percent of locally sourced revenues grew annually at only an average rate of 15 per cent. The poor performance of real property taxes could be attributed to undervaluation of real properties, central government–mandated exemptions, and poor collection. Taxes on goods and services performed only marginally better than real property taxes with an average annual growth rate of 17 per cent. Similar to real property taxes, the taxes on goods and services suffer from under–reporting of gross receipts, and are highly regulated by the national government which prescribes the allowable rates. Unit tax rates instead of *ad valorem* rates are used, resulting in low growth elasticity. Non–tax revenues which accounted for an average annual share of 33 per cent of locally generated revenues, had grown at a faster rate of around 19 per cent. This could be attributed to fewer central government restrictions on service or user charges. In principle, it is easier to increase these rates and collect the revenues, because of the closer link to the services provided.

Using the province as the unit of analysis, the study examined the variations in per capita revenues of local governments in relation to various socioeconomic characteristics which are regarded *a priori* to be related to revenue capacities. Only per capita assessed value, percentage of renter households, registered vehicles per capita, and business establishments per capita, appeared to be significantly related to per capita revenue. The estimated response coefficients of per capita revenue to these factors, except for the number of business establishments per capita, varied across observations. This implies that the different provinces exploit their revenue bases to varying degrees. The highest estimated coefficients were used to calculate the revenue capacity or maximum revenue that could be generated in each province. Revenue effort was calculated as the ratio of actual revenue to estimated revenue capacity. The analysis revealed a highly significant positive correlation between actual revenue and revenue

capacity. Revenue effort also appeared to be positively related to actual revenue, albeit statistically insignificant. Local governments could have high revenues even with low revenue efforts so long as their revenue capacities were high. Revenue capacity and revenue effort tended to be negatively related, but this was not statistically significant.

Appendix 6.1 **Consolidated income of local governments**

(In Peso Thousands)

Sources of income	1986	1987	1988	1989	1990	1991	1992
Local Sources	4,615,872	4,887,381	5,499,197	7,765,842	9,268,082	10,533,439	11,043,377
Property Taxes	2,080,112	2,123,302	2,275,902	2,736,142	3,728,184	4,293,251	4,320,757
Taxes on Goods & Services	1,074,350	1,146,110	1,398,622	1,719,969	2,014,726	2,370,901	2,954,867
Business Taxes & Licns.	827,635	881,965	1,063,322	1,312,163	1,594,418	1,903,544	2,291,280
Occupation Tax	10,315	11,041	12,203	13,230	14,495	15,293	17,343
Franchise Tax	5,522	5,629	4,526	8,385	10,685	7,561	100,744
Amusements	200,157	209,867	266,020	303,367	303,516	365,647	459,091
Sand & Gravel	4,962	6,579	9,549	18,715	10,517	9,922	12,972
Fines &Penalties	11,154	16,770	19,917	24,319	30,724	37,625	19,695
Miscellaneous	14,605	14,259	23,085	39,790	50,371	31,309	53,742
Other Taxes	133,632	148,610	175,993	212,073	267,089	315,905	401,403
Residence Tax	108,712	116,092	133,005	160,170	193,429	226,865	288,594
Others	24,920	32,518	42,988	51,903	73,660	89,040	112,809
Operating & Service Income	1,225,446	1,304,183	1,445,401	1,995,536	2,545,623	2,876,363	2,788,110
Income from Public Enterprises	14,041	16,891	26,476	69,078	137,945	82,996	187,774
Miscellaneous	83,332	139,729	162,475	379,583	355,452	351,071	78,113
Capital Revenue	4,959	8,556	14,328	653,461	219,063	242,952	312,353
External Sources	3,983,376	3,992,251	7,806,063	7,442,790	9,687,164	12,900,372	15,952,982
Share in IRA[1]	3,249,201	3,359,350	4,202,151	4,985,669	6,994,654	9,504,040	15,378,502
Share in Nat'l Wealth							30,626
Grants & Aids	734,175	632,901	3,603,912	2,457,121	2,692,510	3,396,332	543,854
Total Income	8,599,248	8,879,632	13,305,260	15,208,632	18,955,246	23,433,811	26,996,359
Extraordinary Receipts	12,096	30,432	20,217	23,987	9,747	17,296	16,224
Borrowings	49,699	13,413	33,382	48,032	97,419	448,366	420,915
Total Income & Ext. Rects. & Bor.	8,661,043	8,923,477	13,358,859	15,280,651	19,062,412	23,899,473	27,433,498

Note: [1] Includes internal revenue allotment, specific tax allotment and the local government revenue stabilisation fund

Source: Basic data form Philippines, Commission on Audit, 1986–92, *Annual Reports 1986-92,* Quezon City.

Appendix 6.2 **Distribution of per capita local revenues, by provinces**

Provincial aggregate	Local revenues	Percent share
First quintile	**489.03**	**7.04**
Sulu	12.85	0.19
Mountain Province	25.03	0.36
Masbate	29.40	0.42
Eastern Samar	36.26	0.52
Samar (Western)	36.64	0.53
Northern Samar	38.39	0.55
Abra	39.84	0.57
Ifugao	40.00	0.58
Southern Leyte	40.64	0.59
Zamboanga del Norte	44.78	0.64
Kalinga-Apayao	45.03	0.65
Romblon	47.71	0.69
Sorsogon	52.45	0.76
Second quintile	**779.60**	**11.23**
Maguindanao	53.87	0.78
Oriental Mindoro	54.74	0.79
Antique	56.24	0.81
Cotabato (North)	57.59	0.83
Siquijor	58.82	0.85
Albay	59.93	0.86
Catanduanes	60.60	0.87
Bukidnon	60.91	0.88
Camarines Norte	61.68	0.89
Cagayan	61.82	0.89
Quirino	63.36	0.91
Occidental Mindoro	64.63	0.93
Zamboanga del Sur	65.42	0.94
Third quintile	**957.62**	**13.79**
Quezon	66.78	0.96
Sultan Kudarat	66.94	0.96
Nueva Ecija	67.25	0.97
Capiz	69.72	1.00
Pangasinan	71.82	1.03
Ilocos Sur	73.08	1.05
Camarines Sur	73.97	1.07
Surigao del Norte	74.25	1.07
Aklan	75.09	1.08
Nueva Viscaya	76.25	1.10
Agusan del Sur	77.15	1.11
Camiguin	79.63	1.15
Negros Oriental	85.68	1.23
Fourth quintile	**1412.54**	**20.34**
Misamis Occidental	89.93	1.30
Tarlac	92.16	1.33
Palawan	93.90	1.35
Aurora	95.98	1.38
Isabela	97.50	1.40
Pampanga	99.51	1.43
La Union	113.42	1.63
Leyte	116.75	1.68
Marinduque	117.46	1.69
Bohol	120.67	1.74
Agusan del Norte	122.57	1.77
Iloilo	124.25	1.79
Ilocos Norte	128.45	1.85
Fifth quintile	**3305.56**	**47.60**
Bulacan	133.11	1.92
Negros Occidental	145.15	2.09
Cavite	149.95	2.16
Laguna	160.52	2.31
Lanao del Norte	171.98	2.48
Batangas	172.61	2.49
Misamis Oriental	179.36	2.58
Bataan	189.62	2.73
Benguet	215.93	3.11
Batanes	224.74	3.24
Cebu	255.02	3.67
Rizal	333.47	4.80
Zambales	460.45	6.63
Metro Manila	513.63	7.40
Total	**6944.34**	**100.00**

Source of basic data: Commission on Audit, 1991. Working Papers

Appendix 6.3 **Provincial socioeconomic characteristics**

Region/province	AFI	PAV	RTD	PUTM	PES20	PURB	PNAG	PRTR	AREA	PDEN	PGRO
Metro Manila	138256.39	14196.27	4.80	0.049907	0.001216	100.00	68.40	0.30	636.00	12497.47	2.98
Cordillera Administrative Region											
Abra	30575.20	2077.48	0.59	0.01239	8.66E-05	23.90	27.30	0.01	3975.55	46.52	1.44
Benguet	85321.74	5324.03	0.67	0.021517	0.000325	53.20	47.80	0.12	2655.38	183.00	3.19
Ifugao	33497.78	690.52	0.39	0.007394	8.15E-05	10.80	23.00	0.02	2517.78	58.50	2.83
Kalinga-Apayao	51742.69	1638.42	0.19	0.005237	9.44E-05	14.50	15.00	0.01	7047.64	30.00	1.36
Mountain Province	40650.60	687.69	0.39	0.003836	7.72E-05	9.00	19.50	0.02	2097.33	55.60	1.24
I. Ilocos Region											
Ilocos Norte	58329.30	2773.24	0.98	0.034055	0.000158	28.30	40.70	0.02	3399.34	135.80	1.68
Ilocos Sur	58758.50	1605.25	1.12	0.015414	9.62E-05	24.10	42.40	0.01	2579.58	201.60	1.60
La Union	65797.29	1887.17	0.78	0.020685	0.000226	28.70	55.00	0.04	1493.09	367.50	1.95
Pangasinan	52874.90	1403.82	0.95	0.016342	0.000112	45.90	48.40	0.02	5368.18	376.30	2.13
II. Cagayan Valley											
Batanes	93171.54	2419.11	1.33	0.01331	0.000266	33.60	44.90	0.09	209.28	71.80	2.20
Cagayan	53453.34	1892.44	0.40	0.015607	0.000107	23.60	37.70	0.01	9002.67	92.20	1.55
Isabela	48784.57	2094.85	0.38	0.014085	0.000132	22.90	47.90	0.02	10664.56	101.30	2.18
Nueva Viscaya	52960.82	1369.79	0.64	0.027017	0.00011	23.90	56.90	0.03	3903.87	77.10	2.22
Quirino	40508.66	1291.49	0.24	0.009016	0.000131	25.50	30.00	0.01	3057.20	37.30	3.21
III. Central Luzon											
Bataan	83048.02	5437.55	0.75	0.028361	0.000225	74.80	62.60	0.10	1372.96	310.10	2.79
Bulacan	94436.90	3108.91	1.00	0.028901	0.0003	79.90	70.70	0.10	2625.00	573.40	3.22
Nueva Ecija	54652.51	2420.44	0.62	0.016977	9.14E-05	39.00	44.60	0.02	5284.33	248.40	2.07
Pampanga	89921.74	2658.79	1.11	0.025611	0.000209	70.60	70.60	0.06	2180.68	702.80	2.64
Tarlac	51890.73	1733.27	0.80	0.026709	0.000129	29.90	45.00	0.01	3053.45	281.60	2.25
Zambales	74678.47	4621.84	0.35	0.026816	0.000226	65.30	52.80	0.18	3714.40	151.60	2.40
IV. Southern Tagalog											
Aurora	49548.42	2291.45	0.20	0.009594	0.000165	43.60	34.50	0.03	3239.54	43.10	2.68
Batangas	74108.78	6905.42	1.16	0.02053	0.000196	27.00	61.70	0.04	3165.81	466.50	2.32
Cavite	85416.09	4525.49	1.25	0.02626	0.000251	76.20	68.40	0.11	1287.55	895.10	4.10
Laguna	87029.35	5480.09	0.85	0.033716	0.000315	74.40	71.60	0.11	1759.73	778.70	3.48
Marinduque	67760.49	3733.60	0.71	0.00871	0.00014	17.30	47.60	0.03	959.25	193.40	0.66

REGION/PROVINCE	AFI	PAV	RTD	PUTM	PES20	PURB	PNAG	PRTR	AREA	PDEN	PGRO
Occidental Mindoro	61131.93	1476.14	0.27	0.009845	0.000117	33.00	43.40	0.04	5879.85	48.10	2.42
Oriental Mindoro	51725.17	1142.20	0.33	0.008367	9.09E-05	25.50	41.90	0.02	4364.72	126.00	2.10
Palawan	41415.19	2122.36	0.17	0.011041	0.000146	31.40	29.40	0.03	14896.26	35.50	3.58
Quezon	47324.67	2519.19	0.23	0.008242	0.000132	33.00	48.70	0.05	8706.60	157.60	1.97
Rizal	93046.12	7187.28	0.95	0.015227	0.000358	95.50	77.30	0.13	1308.92	746.80	1.65
Romblon	27386.70	893.75	1.06	0.004964	8.79E-05	22.10	50.10	0.02	1355.93	167.90	5.81
V. Bicol											
Albay	39323.13	1334.25	0.64	0.010763	0.000148	31.70	59.90	0.03	2552.57	354.10	1.11
Camarines Norte	38181.76	1745.90	0.34	0.012036	9.21E-05	33.90	50.10	0.05	2112.49	185.10	2.41
Camarines Sur	45590.95	2799.86	0.71	0.009189	0.00011	35.20	63.40	0.04	5266.82	248.00	1.74
Catanduanes	50965.33	1014.81	0.51	0.010984	0.000118	27.90	54.00	0.03	1511.48	123.70	0.65
Masbate	30533.79	1316.38	0.25	0.003187	5.34E-05	25.00	42.40	0.03	4047.69	148.10	0.25
Sorsogon	36766.00	834.08	0.49	0.006412	8.22E-05	26.80	37.30	0.02	2141.44	244.20	0.44
VI. Western Visayas											
Aklan	48640.64	4425.01	0.64	0.014657	0.000124	24.30	56.50	0.02	1817.89	209.30	1.60
Antique	36182.42	2344.88	0.52	0.008054	7.38E-05	28.90	44.70	0.01	2522.01	161.10	1.65
Capiz	35911.37	2850.44	0.63	0.010873	0.000116	28.20	57.10	0.02	2633.17	221.80	1.73
Iloilo	54810.48	4160.31	0.79	0.01333	0.000187	29.79	56.40	0.02	5323.97	331.61	2.10
Negros Occidental	47675.77	5823.77	0.74	0.014574	0.000231	45.60	69.20	0.04	7926.07	284.70	1.58
VII. Central Visayas											
Bohol	31265.87	930.95	1.08	0.010458	9.28E-05	25.30	34.40	0.01	4117.26	230.30	1.64
Cebu	51034.27	3957.83	0.74	0.025116	0.000381	52.40	50.50	0.06	5088.39	520.10	2.38
Negros Oriental	44591.08	2414.66	0.40	0.014069	0.000138	23.90	38.20	0.01	5402.27	171.30	1.22
Siquijor	28397.41	1194.19	0.86	0.018882	5.41E-05	12.10	27.90	0.02	343.50	215.20	0.50
VIII. Eastern Visayas											
Eastern Samar	45972.60	1356.99	0.42	0.005964	8.81E-05	75.90	32.80	0.01	4339.65	75.90	0.27
Leyte	36943.35	3969.46	0.61	0.010578	0.00012	32.73	48.70	0.03	6268.26	237.04	1.32
Northern Samar	43133.33	1113.38	0.21	0.003665	7.3E-05	35.40	35.70	0.02	3497.98	109.70	0.13
Samar (Western)	31385.95	1379.51	0.16	0.003736	5.25E-05	25.60	39.20	0.03	5591.00	95.50	0.63
Southern Leyte	41028.57	1190.84	0.75	0.009222	8.7E-05	20.50	40.50	0.01	1734.80	185.60	0.83

REGION/PROVINCE	AFI	PAV	RTD	PUTM	PES20	PURB	PNAG	PRTR	AREA	PDEN	PGRO
IX. Western Mindanao											
Sulu	33601.55	348.61	0.64	0.002304	5.32E-05	17.30	14.80	0.01	1600.40	293.70	2.68
Zamboanga del Norte	33827.34	1155.71	0.54	0.00909	7.68E-05	21.70	27.50	0.02	6618.11	102.30	1.42
Zamboanga del Sur	48281.37	1188.85	0.61	0.015152	0.000171	42.50	37.40	0.03	8052.00	191.80	2.70
X. Northern Mindanao											
Agusan del Norte	41720.85	2148.54	0.46	0.015507	0.00026	47.40	52.40	0.07	2590.29	179.70	2.45
Agusan del Sur	38389.76	2829.30	0.17	0.00607	8.32E-05	24.40	24.30	0.02	8965.50	46.90	4.73
Bukidnon	45809.65	4309.47	0.58	0.007198	0.000108	31.40	36.10	0.03	8293.78	101.70	2.94
Camiguin	32311.72	1443.18	1.48	0.012327	0.000265	33.90	43.20	0.02	229.80	279.60	1.18
Misamis Occidental	34566.85	1969.01	1.21	0.016088	0.000146	31.90	43.80	0.04	1939.32	218.80	0.94
Misamis Oriental	58507.79	3760.94	0.83	0.021481	0.000307	66.30	46.70	0.09	3570.03	242.30	2.29
Surigao del Norte	38614.38	3309.66	0.68	0.008526	0.000101	48.00	37.60	0.02	2739.02	155.50	1.60
XII. Central Mindanao											
Cotabato (North)	34768.76	1677.90	0.27	0.013046	5.76E-05	18.10	41.90	0.02	6725.90	116.40	3.07
Lanao del Norte	41239.45	8381.25	0.61	0.011243	0.000213	24.30	38.60	0.08	3092.04	198.60	2.91
Maguindanao	50073.58	2638.75	0.36	0.005791	0.000102	32.20	38.70	0.04	4887.60	150.10	3.51
Sultan Kudarat	50185.78	2018.66	0.46	0.010706	9.41E-05	31.00	34.30	0.02	4714.80	92.50	3.68

Note:

AFI - Average family income
PAV - Per capita taxable assessed property value
RTD - Road density
PUTM - Registered trucks, utitlity van and motorcycles per capita
PES20 - Establishments per capita
PURB - Percentage of population in urban areas
PNAG - Percentage of population in non-agricultural occupation
PRTR - Percentage of renter-households to total households
PDEN - Population density
PGRO - Population growth rate

Sources:

Data on average family income based on Philippines, National Statistics Office, 1994. 1991 Family Income and Expenditure Survey

Data on assessed property based on Philippines, Commission on Audit, 1991. *Annual Report 1991*, Quezon City.

Data on roads from the Department of Public Works and Highways.

Data on registered vehicles from the Land Transportation Office, 1991. *Annual Report 1991*

Data on establishments based on National Statistics Office, 1991. Establishments survey.

All other data based on Philippines, National Statistics Office, *1990 Census of Population and Housing*, Manila; and Philippines, National Statistics Office, 1993, *Census Facts and Figures 1990*, Manila..

Appendix 6.4 Ordinary least squares regression results of local government revenue model

Dependent variable: Per capita regular local government revenue

No. of observations	66	66	66	66	66	66
			Regression coefficients and t-values:			
Regressors:	Eq 1	Eq 2	Eq 3	Eq 4	Eq 5	Eq 6[1]
Constant	7.59***	7.78***	4.81*	4.44***	7.31***	6.02***
	3.13	3.32	1.90	-2.81	3.31	5.44
Assessed property value per capita	0.34***	0.34***	0.38***	0.53***	0.35***	0.34***
	4.33	4.72	4.71	6.17	5.04	5.02
Average family income	-0.10	-0.10	0.06	0.34**	-0.10	
	-0.65	-0.68	0.38	2.00	-0.68	
Registered vehicles per capita	0.32***	0.35***			0.32***	0.31***
	3.60	4.13			4.29	4.27
No. establishments per capita	0.34**	0.34**	0.54***		0.31***	0.29***
	2.63	2.77	4.36		2.83	2.77
Percentage of renter–households	0.13*	0.13*			0.13**	0.12**
	1.80	1.88			2.12	2.03
Total road density	-0.01	-0.06	-0.008	0.12		
	-0.05	-0.81	-0.12	1.57		
Population in urban areas (%)	0.10	0.003	-0.009	0.16		
	0.10	0.03	-0.08	1.28		
Population in non–agriculture (%)	0.01	-0.02	0.18	0.14		
	0.10	-0.13	1.20	0.78		
Population density	-0.03					
	-0.50					
Population growth	0.03					
	0.47					
Land area	0.02					
	0.28					
R-squared	0.86	0.86	0.82	0.76	0.86	0.86
Adjusted R-squared	0.84	0.84	0.80	0.74	0.85	0.85
Heteroscedasticity: Chi-squared (1)	0.08	0.03	0.004	0.002	0.12	0.09

Note: [1]Preferred model specification
*** Significantly different from zero at the 1 per cent level (2-tailed test)
** Significantly different from zero at the 5 per cent level (2-tailed test)
* Significantly different from zero at the 10 per cent level (2-tailed test)

Source: author's calculation

Appendix 6.5 **Actual revenue, revenue capacity and revenue effort, by province**

Province	Actual Revenue[1] (Pesos per capita)	Province	Revenue Capacity (Pesos per capita)	Province	Revenue Effort (Percent)
First Quintile		First Quintile		First Quintile	
Sulu	12.81	Sulu	25.94	Pampanga	35.3
Mountain Province	18.78	Mountain Province	48.28	Aklan	37.6
Northern Samar	28.51	Masbate	54.83	Laguna	37.9
Masbate	29.23	Northern Samar	56.12	Cavite	38.3
Samar (Western)	33.13	Samar (Western)	58.53	Bukidnon	38.3
Eastern Samar	33.68	Romblon	60.30	Abra	38.4
Zamboanga del Norte	36.44	Ifugao	61.20	Mountain Province	38.9
Ifugao	36.72	Sorsogon	62.79	Bulacan	39.7
Kalinga-Apayao	38.85	Eastern Samar	68.87	Camarines Sur	42.8
Southern Leyte	39.37	Kalinga-Apayao	72.36	Metro Manila	43.3
Abra	39.48	Southern Leyte	75.56	Nueva Ecija	43.6
Siquijor	42.29	Zamboanga del Norte	78.20	Camiguin	43.7
Sorsogon	42.63	Oriental Mindoro	79.51	Capiz	44.6
Second Quintile		Second Quintile		Second Quintile	
Romblon	45.34	Quirino	87.15	Negros Occidental	46.1
Antique	46.82	Antique	89.01	Cebu	46.2
Cotabato (North)	49.07	Siquijor	91.34	Siquijor	46.3
Oriental Mindoro	51.92	Cotabato (North)	93.47	Zamboanga del Norte	46.6
Bukidnon	52.92	Catanduanes	94.60	Quezon	46.8
Catanduanes	53.07	Agusan del Sur	98.21	Isabela	47.8
Albay	54.05	Abra	102.80	Albay	48.6
Camarines Sur	56.83	Ilocos Sur	103.53	Eastern Samar	48.9
Quirino	57.43	Sultan Kudarat	108.25	Sulu	49.4
Occidental Mindoro	57.47	Occidental Mindoro	108.64	Camarines Norte	49.8
Cagayan	58.35	Maguindanao	108.99	Zamboanga del Sur	49.8
Nueva Ecija	58.51	Albay	111.22	Negros Oriental	50.2
Capiz	58.81	Bohol	111.75	Benguet	50.6
Third Quintile		Third Quintile		Third Quintile	
Camiguin	58.96	Cagayan	113.97	Northern Samar	50.8
Camarines Norte	59.14	Pangasinan	114.21	Cagayan	51.2
Maguindanao	59.73	Camarines Norte	118.75	Bataan	51.5
Zamboanga del Sur	61.93	Surigao del Norte	123.48	Nueva Viscaya	51.6
Quezon	62.39	Zamboanga del Sur	124.36	Batanes	51.6
Isabela	63.48	Negros Oriental	130.11	Misamis Occidental	51.8
Sultan Kudarat	63.76	Capiz	131.87	Southern Leyte	52.1
Negros Oriental	65.32	Camarines Sur	132.79	Cotabato (North)	52.5
Aklan	65.92	Isabela	132.81	Antique	52.6
Ilocos Sur	67.92	Palawan	133.10	Occidental Mindoro	52.9
Pangasinan	68.76	Quezon	133.31	Masbate	53.3
Surigao del Norte	71.12	Nueva Ecija	134.20	Ilocos Norte	53.5
Nueva Viscaya	72.29	Camiguin	134.91	Kalinga-Apayao	53.7
Fourth Quintile		Fourth Quintile		Fourth Quintile	
Agusan del Sur	73.26	Aurora	135.64	Maguindanao	54.8
Misamis Occidental	78.84	Bukidnon	138.18	Catanduanes	56.1
Palawan	79.73	Tarlac	139.28	Misamis Oriental	56.1
Aurora	80.03	Nueva Viscaya	140.11	Batangas	56.6
Pampanga	82.04	Marinduque	150.58	Samar (Western)	56.6
Tarlac	84.55	Misamis Occidental	152.21	Surigao del Norte	57.6
Marinduque	98.03	Leyte	157.18	La Union	58.7
Leyte	101.07	Aklan	175.32	Agusan del Norte	58.7
Batanes	105.01	La Union	184.81	Sultan Kudarat	58.9
La Union	108.48	Iloilo	186.94	Aurora	59
Bohol	111.75	Agusan del Norte	196.83	Palawan	59.9
Ilocos Norte	111.75	Batanes	203.51	Ifugao	60
Iloilo	115.34	Ilocos Norte	208.88	Pangasinan	60.2
Fifth Quintile		Fifth Quintile		Fifth Quintile	
Agusan del Norte	115.54	Pampanga	232.40	Tarlac	60.7
Negros Occidental	116.92	Negros Occidental	253.63	Iloilo	61.7
Bulacan	120.53	Lanao del Norte	283.95	Lanao del Norte	62.8
Cavite	124.96	Batangas	288.96	Rizal	63.8
Cebu	147.64	Misamis Oriental	293.82	Leyte	64.3
Laguna	153.99	Bulacan	303.61	Marinduque	65.1
Batangas	163.55	Cebu	319.56	Oriental Mindoro	65.3
Misamis Oriental	164.83	Cavite	326.27	Ilocos Sur	65.6
Bataan	176.86	Bataan	343.41	Quirino	65.9
Lanao del Norte	178.32	Benguet	353.03	Sorsogon	67.9
Benguet	178.63	Rizal	366.35	Agusan del Sur	74.6
Rizal	233.73	Laguna	406.29	Romblon	75.2
Zambales	442.78	Zambales	442.78	Zambales	100
Metro Manila	483.04	Metro Manila	1115.56	Bohol	100

Note: [1]Net per capita local government revenue

Source: Author's calculation

7
Local government expenditures

Introduction

This chapter analyses the expenditures of local governments. The major objective is to come up with a measure of expenditure needs of local governments based on their actual behaviour. Section 2 discusses the legal aspects of local government budgets, through which the central government influences local government expenditures. Section 3 analyses the trends and patterns of local government expenditures during the period 1986–1992. Section 4 examines the variability in local government expenditures using the province as the unit of analysis. Section 5 looks into the socioeconomic factors that are regarded *a priori* to affect local government expenditures. Using multi–variate regression analysis, Section 6 attempts to segregate the effects of each factor, which are broadly classified into: capacity or preference, and cost or need. The results are used to calculate local government expenditure needs by province. The chapter concludes with an evaluation of the relative expenditure need position of the provinces, and its implications.

Legal framework of local government expenditures

Central government control over local government fiscal affairs extends to the disbursements or expenditures of local government funds through the national laws that govern local budgeting, imbuing local budgets with certain uniformity and regularity. Until 1991, Presidential Decree 477 (1974) defined the budgeting process, fund structure and handling of local government funds.

Local governments were required to maintain four major funds: the general fund, the infrastructure fund, the special education fund, and trust funds. The general fund consisted of monies and resources which could be used to pay all expenditures and obligations except those which were chargeable to the other funds established for specific purposes. It was financed by locally generated revenues, and internal revenue allotments from the central government. The infrastructure fund was established to finance

expenditures related to construction and maintenance of roads, bridges, other public works projects, and public utilities. Its sources were the local government's share in the petroleum excise tax of the central government and transfers from the general fund. Local governments were required to transfer 8 to 12 per cent of the general fund to the infrastructure fund for direct local government spending on capital investments. The special education fund consisted of proceeds from the special education tax which were earmarked for educational expenditures. Trust funds were private and public monies which had been received as a guaranty for the fulfillment of some obligations. Some local governments maintained a fifth fund—the national allotment to local government units fund—consisting of central government aid designated for certain projects and programs.

The central government influenced local government expenditures more directly through the requirements imposed on local government budgets. Presidential Decree No. 477 required local governments to maintain a balanced budget; the aggregate amount appropriated annually was not to exceed the estimated annual income certified by the local treasurer. The decree, however, allowed one supplemental budget per month and in exceptional circumstances additional supplementals could be prepared. The supplemental budgets reduced the necessity to prepare realistic revenue and expenditure estimates. Local governments knew that the annual budget need only be a crude first approximation (Bahl, 1983). They could always make budget realignments through the supplemental budgets. Together with the limited revenues and restrictive conditions imposed on local government borrowing, this stunted long term capital planning by local governments.

Local government budgets were also required to provide for certain statutory and contractual obligations. These included: setting aside 2 per cent of estimated revenues from regular sources as reserve for unforeseen circumstances; from 5 to 7 per cent of net income depending on the class of the jurisdiction to be provided as aid to hospitals; an amount not exceeding P500 per *barangay* to be contributed to the *barangay* development fund; 20 per cent of internal revenue allotment from the central government to be appropriated for development expenditures approved by the Department of Local Governments; 18 per cent of the general fund income to be contributed to the integrated

national police (Presidential Decree No.632); and 6) 25 per cent of the costs of the previous election to be set aside as election reserves to cover local government contributions to election expenses (Presidential Decree No. 1939). Local governments were not allowed to spend more than 45 to 55 per cent of their income, depending on their income classification, on salaries and wages without prior approval of the Department of Budget and Management.[1]

Ursal (1987) estimated that an average local government unit had around 46 per cent of its budget tied to central government mandated expenditures. Many of these expenditures were legitimate local concerns which local governments could have undertaken on their initiative, without central government intervention. Instead, the presence of central government requirements limited the discretion of local governments over the size and composition of their budgets, and made them feel less accountable for their budgetary decisions (Bahl, 1983).

In response to the clamor of local officials for greater control of their budget and in accordance with the avowed decentralisation policy of the central government, the mandatory contributions of local governments to integrated national police and hospital services were removed, beginning in 1990 (Republic Act No.6831). This freed up to 25 per cent of local government budgets to the discretion of local authorities. In 1990, the local governments also regained operational control of police units in their jurisdiction; but police personnel remained central government employees whose promotions were determined by the Philippine National Police, and whose salaries were funded by the central government (Republic Act No.6975).

The Local Government Code of 1991 maintained the same budgetary requirements imposed under Presidential Decree No. 477, except for some minor amendments. The required contribution for each *barangay* was increased from P500 to P1,000 and the reserve requirement for unforeseen circumstances were raised from 2 to 5 per cent. The infrastructure fund and other special funds was abolished, leaving only the general fund

[1]Expenditures for salaries and wages of officials and employees of public schools, hospitals, health and agricultural services, public utilities, markets and slaughterhouses, and other economic enterprises are exempted from this requirement.

and the special education fund. The Local Government Code also imposed stringent requirements on supplemental budgets. Budgetary realignment could only be allowed in times of calamity.

The major effect of the Local Government Code on the local government budget lies in the devolution of certain functions carried out by field offices of the central government and the increase in central government transfers to local governments. Central government field offices providing agricultural extension, health services, social welfare services, tourism, natural resource management, and minor infrastructures were abolished. Their personnel, property, and equipment were transferred to the local governments.[2] To insure that there would be no disruption in the delivery of these services, the Code instructed local governments to give them priority in their budgets.[3] The Code also increased the number of mandatory local government staff in line with the additional responsibilities.

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[2]Executive Order No. 503 (1992) provided the guidelines for the transfer of personnel, assets and liabilities to local governments.

[3]Executive Order No. 507 (1992) outlined the specific functions, programs, projects and responsibilities devolved to the local governments. This is summarized in Appendix 7.1.

Table 7.1 **Local government prescribed staffing requirement, new Local Government Code, Philippines**

Position	Province	Municipality	Highly urbanised city	City
Secretary	E	E	E	E
Treasurer	E	E	E	E
Assessor	E	E	E	E
Accountant	N	N	N	N
Budget Officer	E	E	E	E
Planning and Development Coordinator	E	E	E	E
Engineer	E	N	E	E
Health Officer	N	N	N	N
Civil Registrar	-	N	E	N
Administrator	N	O	E	N
Legal Officer	N	O	E	N
Agriculturist	E	-	O	O
Social Services and Development Officer	N	O	E	N
Environment and Natural Resources Officer	O	O	O	O
Architect	O	O	O	O
Information Officer	O	O	O	O
Cooperatives Officer	O	O	O	O
Population Officer	O	O	O	O
Veterinarian	N	-	E	N
General Services Officer	N	-	E	N

Note: E - existing mandatory position
N - new mandatory position
O - new optional position

Source: The World Bank, 1993. The Philippines fiscal decentralisation study, Report No. 10716–PH, p. 64.

Local government expenditures: trends and patterns

Total local government expenditures (net of interfund transfers) rose from P8.72 million in 1986 to 26.21 million in 1992, registering an average nominal annual growth rate of around 20 per cent. General public services was the biggest item in the expenditures of local governments with an average annual nominal growth rate of around 24 per cent. From P3.46 million (or around 40 per cent of total expenditures) in 1986, it increased to P12.92 million (or almost half of the total expenditures) in 1992. General public services pertain to expenditures which do not yield any direct benefits to the residents, but are critical to the delivery of local government services. General public services consist of

expenses incurred by the offices of the local executives and legislatures, and the administrative support staff consisting of treasurers, auditors, and assessors. They also include the expenditures incurred for the general administration of local courts and maintenance of prisons, and some of the mandated budgetary requirements (e.g., contributions to integrated national police and election reserves).

Table 7.2 **Local government expenditures by function, Philippines, 1986–92**

Functional category	Current amount (billion pesos) 1986	1987	1988	1989	1990	1991	1992	Average annual growth rate[1] (%)
General Public Services	3.5	3.8	4.6	6.0	8.5	10.6	12.9	23.6
Education and Manpower Dev't.	1.2	1.3	0.9	0.9	0.7	0.8	2.1	2.1
Health, Nutrition & Pop. Control	0.5	0.6	0.6	0.7	0.8	1.0	1.1	14.4
Social Security, Labor & Welfare	0.1	0.1	0.1	0.1	0.1	0.2	0.5	29.2
Housing and Community Development	0.8	0.8	0.8	1.0	1.2	1.6	1.5	14.2
Economic Services	2.4	2.7	3.9	4.6	5.8	8.5	6.7	20.3
Other Purposes	0.3	0.3	0.3	0.6	0.8	1.0	1.4	27.8
Total	8.7	9.6	11.2	13.9	18.0	23.7	26.2	19.9

Functional category	Per cent Distribution 1986	1987	1988	1989	1990	1991	1992	Average share
General Public Services	39.7	39.9	40.9	43.2	47.3	44.5	49.3	43.6
Education and Manpower Dev't.	14.0	13.5	8.0	6.8	3.9	3.6	8.1	8.3
Health, Nutrition & Pop. Control	5.4	6.0	5.5	4.9	4.6	4.2	4.3	5.0
Social Security, Labor & Welfare	0.6	0.9	0.7	0.6	0.7	0.7	1.8	0.9
Housing and Community Development	8.7	8.2	7.0	7.2	6.8	7.0	5.8	7.2
Economic Services	28.1	28.2	35.0	32.8	32.2	35.8	25.5	31.1
Other Purposes	3.4	3.3	2.8	4.4	4.4	4.3	5.2	4.00
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: [1]Estimated using ordinary least squares.
Source: Philippines, Commission on Audit, 1986–92. *Annual Reports 1986–92.*

Economic services represented the second largest item in the expenditures of local governments. This item grew annually at an average rate of around 20 per cent and accounted for an average share of 31 per cent of total annual local government expenditures from 1986 to 1992. It consisted of expenditures related to the operation of markets and slaughterhouses, construction and maintenance of local roads, bridges, waterworks and other infrastructure, and provision of agricultural services. The central government constantly emphasised the importance of this expenditure item, and promoted its growth through some of the requirements imposed on the local budget such as the mandatory transfers of 8 to 12 per cent of the general fund to the infrastructure fund, and

the required allocation of 20 per cent of internal revenue allotment to development expenditures.

The items which could be broadly classified as social services, accounted for a combined average share of 21 per cent of local government expenditures. They include: education and manpower development; health, nutrition and population control; social security, labour and welfare; and housing and community development.

Education and manpower development expenditures of local governments consisted mainly of contributions to the construction and maintenance of public school buildings and procurement of school supplies. Public education is primarily a national government function. The national government finances the salaries of teachers and the procurement of textbooks, although financially comfortable local governments can augment the salaries and wages of school personnel in their jurisdiction. Some local governments operated secondary and vocational schools in the past. They charged fees to their students. But many of these schools had been assumed by the central government under the provision of the constitution which provided free public elementary and secondary school education. Educational services registered the lowest annual average growth in the expenditures of local governments. Their share in total local expenditures dropped markedly from 14 per cent in 1986 to less than 4 per cent in 1991. They recovered slightly in 1992, rising to 8 per cent of expenditures.

Health services are another function which is a joint responsibility of the national and local governments. Until 1991, the role of local governments was mainly supportive. Most local health personnel were under the administrative control of the Department of Health, and received their salaries from the national government. However, local governments could run their own health programs and hire their own health personnel. The health services of local governments consisted primarily of preventive medicine such as immunisation, health education, and operation of day care clinics and family planning centres. From 1986 to 1992 local government health expenditures only grew by 14 per cent; their share in local government expenditures stagnated between 4 to 5 per cent. This

trend is likely to change in the future with the devolution of the field services of the Department of Health.

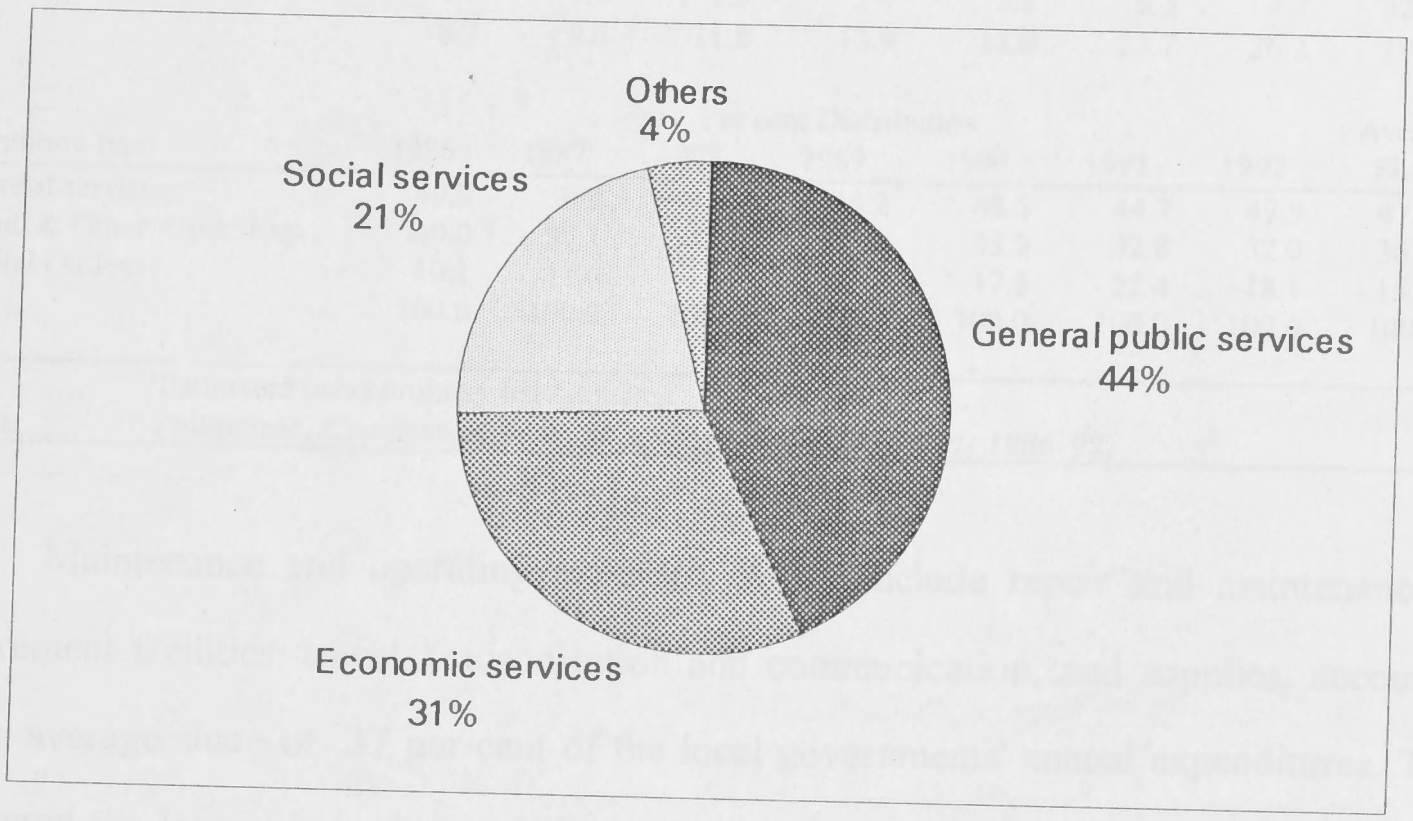
Social security and welfare expenditures of local governments consisted mainly of caring for the aged, and providing administrative support to the programs and projects of the Department of Social Welfare and Development. It appeared to be the lowest priority of local governments, accounting for less than 1 per cent of their expenditures. But it registered the highest growth rate, reflecting improvement in health and hence in longevity, at the margin. This is another item of the local government budget that is likely to experience a dramatic increase with the implementation of the new local government code.

Housing and community development consisted of expenditures for street cleaning, street lighting, garbage collection, sewerage and drainage, and the maintenance of parks, sport centres, and libraries. These were the traditional services of local governments. Table 7.2 shows that as total local government expenditure increased, the share for these items tended to diminish. Their growth rate was lower than that of total expenditures, and their share in total expenditures fell from around 9 per cent in 1986 to less than 6 per cent in 1992.

The last item—other purposes—comprised miscellaneous expenditures for unforeseen circumstances such as disasters and calamities, aid to other government units, budgetary reserves, and other expenditures not classified under 'other items'. They averaged around 4 per cent of total expenditures.

The expenditure pattern shows that the first priority was simply to run local governments. They then concentrated on services which would improve their economic bases. They allocated least to social services. Local governments also appeared to spend little on functions in which both local and national governments were jointly responsible, as in the case of social services.

Figure 7.1 **Average share of local government expenditures by major functional categories, Philippines, 1986–92**



Source: Philippines, Commission on Audit, 1986–92. *Annual Reports 1986–92.*

Local governments tended to devote almost half of their budget to personal services, which consisted of salaries, wages, allowances, and insurance and medicare premiums. Expenditure rose from P3.48 million in 1986 to P8.38 in 1992, registering an average annual nominal growth rate of around 19 per cent. The share in total expenditures fluctuated from about 44 per cent in 1989 and 1991, to around 50 per cent in 1986 and 1992. The high percentage of personal services in local government expenditures had raised concern, particularly from the central government, about its crowding-out effect on other government expenditures.

Table 7.3 **Local government expenditures by type, Philippines, 1986–92**

Expenditure type	Current amount (billion pesos) 1986	1987	1988	1989	1990	1991	1992	Average annual growth rate[1] (%)
Personal services	4.4	4.8	5.2	6.1	8.7	10.6	13.1	19.3
Maint. & Other Oper. Exp.	3.5	3.6	4.7	5.4	6.1	7.8	8.3	15.7
Capital Outlays	0.9	1.1	1.3	2.4	3.2	5.3	4.7	32.3
Total	8.7	9.6	11.2	13.9	18.0	23.7	26.2	19.9

Expenditure type	Per cent Distribution 1986	1987	1988	1989	1990	1991	1992	Average Share
Personal services	49.9	50.3	46.3	44.2	48.5	44.7	49.9	47.7
Maint. & Other Oper. Exp.	40.0	38.1	42.0	38.8	33.9	32.8	32.0	36.8
Capital Outlays	10.1	11.6	11.7	17.0	17.5	22.4	18.1	15.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: [1]Estimated using ordinary least squares.
Source: Philippines, Commission on Audit, 1986–92. *Annual Reports 1986–92.*

Maintenance and operating expenses, which include repair and maintenance of government facilities, travel, transportation and communication, and supplies, accounted for an average share of 37 per cent of the local governments' annual expenditures. They registered the lowest growth rate (16 per cent) among the three classes of expenditures, and their share in total expenditures declined from 40 per cent in 1986 to 32 per cent in 1992. This has been a major reason for the severe deterioration of local infrastructure during the last 20 years.

As Table 7.3 shows, capital outlays had the lowest share in local government expenditures. They averaged only around 16 per cent of the annual expenditures of local governments. With their limited income, local governments were preoccupied with current operations, and had very low expenditures on construction and the acquisition of physical facilities that would produce long-term beneficial effects. However, local governments had been giving increasing attention to this expenditure item as indicated by its growth rate and rising share of total expenditures. From 1986 to 1992, capital outlays registered the highest growth rate among the three expenditure classes. Their share in local expenditures rose from 10 per cent to 18 per cent.

The municipalities had the highest share in total local government expenditures, followed by cities and provinces. The municipalities accounted for an average of 39 per cent of total local expenditures from 1986 to 1992, while cities and provinces accounted

for 32 and 28 per cent, respectively. The municipalities also had the highest growth rate in expenditures at 23 per cent, followed by cities (19 per cent) and provinces (18 per cent).

Table 7.4 **Local government expenditures by government levels, Philippines, 1986–92**

Government level	Current amount (billion pesos) 1986	1987	1988	1989	1990	1991	1992	Average Annual Growth Rate[1] (%)
Province	2.6	2.8	2.9	4.4	5.0	6.9	6.2	17.8
Municipality	3.0	3.4	4.7	5.3	7.2	9.5	11.0	22.7
City	3.1	3.4	3.6	4.2	5.7	7.3	8.9	18.5
Total	8.7	9.6	11.2	13.9	18.0	23.7	26.2	19.9

Government level	Per cent Distribution 1986	1987	1988	1989	1990	1991	1992	Average Share
Province	30.1	28.9	25.5	31.5	28.0	29.0	23.8	28.1
Municipality	34.2	36.0	42.3	38.4	40.1	40.2	42.0	39.0
City	35.7	35.1	32.2	30.1	31.9	30.8	34.2	32.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: [1]Estimated using ordinary least squares.
Source: Philippines, Commission on Audit, 1986–92. *Annual Reports 1986–92*, Quezon City.

Variations in local government expenditures

Per capita local government expenditures across provinces varied relatively less than per capita local income. The coefficient of variation of the former was only half that of the latter. Batanes, which had the fourth highest per capita income, emerged as the province with the highest per capita expenditures. This was made possible by the transfers it received from the central government and its small population.[4] Manila which had the highest per capita income was only third in per capita expenditures although it had the highest absolute expenditures. The lowest per capita local expenditure was recorded in the province of Sulu, which also had the lowest recorded per capita local revenue.[5]

[4]Twenty-five percent of the internal revenue allotment from the central government was allocated to local governments based on equal sharing, which favored local governments with small population. (See Chapter 8 for an in-depth discussion on this matter.)
[5]See Appendix 7.2 for the list of per capita expenditures by province.

Table 7.5 **Variation in per capita local government expenditures, by province, 1991**

Expenditure Type	Maximum (Pesos)	Minimum (Pesos)	Mean (Pesos)	Standard Deviation	Coefficient of Variation
Personal Services	719.21	91.48	178.44	79.66	0.45
Maint. & Oper. Exp.	495.50	40.56	106.74	62.48	0.59
Capital Outlay	209.38	7.83	67.85	47.99	0.71
Current Oper. Exp.	1214.70	162.14	285.18	132.67	0.47
Total Expenditures	1290.60	195.15	353.03	152.09	0.43

Source: Author's calculations

Table 7.5 shows the different classes of local government expenditures and their variation across provinces. The coefficient of variation shows that capital outlay was the most variable, followed by maintenance and operating expenditures. Expenditures on personal services exhibited the least variation. This was not unexpected, in view of the limited income of local governments and their expenditure pattern. Capital expenditures seemed to be a residual item in the budget. With their limited income and borrowing capacity, many local governments tended to postpone expenditures for capital outlays, until they had enough savings or surplus funds. This, and the "lumpiness" of capital expenditures, contributed to their variability.

A breakdown of the expenditures of local governments by functions across provinces could have provided interesting insights about the fiscal behaviour of local governments. However, the lack of uniformity in their accounting practices complicated this. For example, some local governments classified some health expenditures which were special projects of the mayor under general public services (office of the mayor), and expenditures on repairs of school buildings were either classified as education expenditures or economic expenditures (engineering services). Some local governments itemised the 20 per cent internal revenue allotment earmarked for development expenditures into specific functions (economic services, health, etc.), but some simply categorised it under other purposes. Thus, the expenditures reported for some functions were understated in some provinces and overstated in others.

Variations in socioeconomic conditions

As pointed out earlier, variations in local government expenditures could be explained by their varying socioeconomic characteristics, and their residents' preferences. This section examines the socioeconomic characteristics of the provinces, which are viewed as being related to government expenditures. These characteristics were based on the literature discussed in Chapter 5.

With the assumption that local services are normal goods, it is expected that the revenue capacity, or the local government's ability to collect revenues, would have a significant effect on local government expenditures. Per capita assessed property value and/or personal income are often used as proxy variables for revenue capacities. However, the results in the previous chapter showed that revenues of local governments in the Philippines were only partly determined by per capita assessed property value; while personal income did not have a significant effect at all. In lieu of these variables, the revenue capacity estimates in the previous chapter are used in the empirical investigation that follows. It is expected that, as the theory predicts, revenue capacity would have a positive effect on local government expenditures.

The other socioeconomic variables that have been found to be important determinants of government expenditures include: population density, per cent of population below 14 and above 65 years old, per cent of population in agriculture and services, land area, urbanisation, road density, poverty incidence, and the consumer price index of non-food items.

Population density is expected to be positively related to local government expenditures. Overcrowding is usually associated with higher expenditures for police and fire protection, maintenance of sewers, and sanitation. Population density is measured as the ratio of total population to total area of alienable and disposable lands of the province. This measure is a better indicator of overcrowding than one that uses total land area, which includes uninhabited lands.

High percentages of population below 14 and above 65 years old represent higher demand for health, education and social welfare services, which entail greater government

expenditures. Higher per capita government expenditures are also expected in those provinces, where a high proportion of the population is in the agricultural and services sector. This is because the majority of local governments cater to rural areas, and most of them are involved in the provision of agricultural extension services, assistance to small livelihood projects, and maintenance and operation of local public markets .

The land area of the province is also postulated to be related to per capita government expenditures. A larger area entails greater transportation and administrative costs. It could also mean a more spread-out population, rendering the delivery of government services more difficult and expensive.

Local road density is used as a proxy variable for local infrastructure. Since local governments are primarily responsible for infrastructure maintenance, it is expected that high local road density, measured by kilometres of road per land area, would be positively related to local government expenditures.

The degree of urbanisation, represented by the proportion of the population living in urban areas is another factor that could affect local government expenditures. The demand for public services is higher in highly urbanised than in rural areas. Parks and recreational facilities, for example, have to be publicly provided in urban areas whereas in rural areas they are left to the natural environment. More social problems such as crime and squatting have to be dealt with in urban areas than in rural areas.

Poverty incidence, measured by the proportion of families with income below the amount necessary to purchase the basic minimum food and non-food requirements, could also affect local government expenditures. High poverty incidence means more demand for social and welfare services. Local governments in provinces with high poverty incidence, however, may not have the capacity to meet these demands.

The consumer price index for non-food items, is a proxy variable for the cost of the production or delivery of local government services. It is a composite price index for clothing, fuel, light, water, house repairs, and services. It is expected that the price of labour, capital and materials used for the production of public services and running governments would vary with the consumer price index for non-food items.

The degree of political fragmentation is another variable which could affect per capita government expenditures (Weicher, 1970). The ratio of the number of municipalities and cities to the population of a province, indicates the degree of political fragmentation. It is expected to be positively related to per capita government expenditure. This is because there are fixed costs in running local governments; the higher the degree of political fragmentation, the higher the total fixed costs.

The variations in the socioeconomic characteristics of the provinces are illustrated in Table 6. The provinces differed most significantly in population density, as indicated by the coefficient of variation. Population density ranged from a maximum 16,480 people per square kilometre in Metro Manila to a minimum of 106 people per square kilometre in Kalinga-Apayao. There was also considerable variations in land area, urbanisation and road density with coefficients of variation around 0.7. Palawan had the largest land area of 14, 896 square kilometres, about 71 times the size of Batanes. Metro Manila had 100 per cent urban population in contrast to Mountain Province with only 9 per cent. Metro Manila also had the highest local road density at 4.4 kilometres of road per square kilometre; 4 times the average, and 22 times that of Western Samar, which had only 0.2 kilometres of road per square kilometre.

Poverty was most severe in Romblon, where 80 per cent of the population were below the poverty line. The lowest incidence was in Batanes with only around 5 per cent of the total number of families in the poor category. Siquijor had the highest ratio of population aged 65 years old and over at 8 per cent, while Sulu had the lowest at only 1.3 per cent.

The differences in the consumer price index and percentage of population 14 years old and below, were small, with coefficients of variation equal to 0.1. Bohol had the highest consumer price index for non-food items and Zambales had the lowest. Batanes had no data on the consumer price index. As regards proportion of population 14 years old and below, Masbate had the highest and Metro Manila had the lowest. More detailed statistics are in Appendix 7.3.

Table 7.6 **Variations in selected socioeconomic characteristics, by province, Philippines, 1990 and 1991**

Characteristics	Maximum	Minimum	Mean	Standard deviation	Coefficient of variation
Population density[a]	16479.5	105.7	650.4	1994.9	3.1
Population 65 yrs. & over[b]	8.0	1.3	3.9	1.4	0.4
Population 14 yrs. & below[b]	45.4	33.5	40.5	2.7	0.1
Road density[c]	4.4	0.2	1.1	0.7	0.6
Land area[d]	14896.3	209.3	3970.0	2763.3	0.7
Population in urban areas[b]	100.0	9.0	36.6	20.2	0.6
Pop'n. in agriculture & services[b]	85.2	22.7	54.8	14.0	0.2
Poverty incidence[e]	80.6	4.9	45.5	14.5	0.3
Consumer price index	206.2	123.0	155.8	15.4	0.1

Notes: [a]Population per square kilometer of alienable and disposable land; [b]Per cent of total population; [c]Kilometres of local roads per square kilometre of alienable and disposable land; [d]Total area in square kilometre; [e]Per cent of total number of families

Source: Basic data for roads were obtained from the Department of Public Works and Highways;
Basic data for land area were obtained from the Department of Environment and Natural Resources;
Basic data for poverty incidence were obtained from the National Statistics Coordination Board;
All other data were based on various National Statistics Office publications (See Bibliography).

Actual expenditures and expenditure needs

The median voter model discussed in Chapter 5 identifies the factors, other than socioeconomic characteristics discussed above, that could affect local government expenditures. These are expressed by the reduced form expenditure equation, formally derived in the model, that is:

$$E = f(V, A, D, P, C) \qquad (5.7)$$

where:

E – local government expenditures

V – revenue capacity factors

A – central government transfers

D – voter's income and preferences

P – price of factors of production

C – environmental or socioeconomic cost factors

Note the inclusion of central government transfers in the expenditure equation. Central government transfers increase the amount of local government resources. Like

revenue capacity, they are expected to have a positive effect on local government expenditures. Equation (5.7) is estimated as a log linear function using ordinary least squares. The dependent variable is represented by per capita current operating expenditures of the provinces, which consist of personal services, maintenance and operating expenses. Current operating expenditures are used instead of total expenditures, because the lumpiness of capital spending is likely to make total expenditures for any single year non-representative.

The per capita revenue capacity estimated in Chapter 6 is used as the measure of revenue capacity. Central government transfers are represented by the sum of per capita internal revenue allotment, specific tax allotment, local government revenue stabilisation funds and other grants which accrue to the budget of local governments.

The consumer price index of non-food items is used as a proxy for the price of the factors of production. Voters' income and preferences are respectively represented by average per capita income and political fragmentation. The degree of political fragmentation could be interpreted as representing residents' demand for more differentiated government services that better match their varying preferences. The higher the number of local government units, the more differentiated are the quantity, quality and mix of public services. Bradbury et al. (1984) identified certain population characteristics (e.g. proportion of elderly and population growth) under tastes and preferences. However, these population characteristics together with other socioeconomic characteristics presented in the previous section, are classified under environmental or socioeconomic cost factors. Auten (1972) considered them in general, as perceived need factors, which affect government expenditures through the size of the client groups.

The expenditure model was estimated from general to specific using Microfit 3.0's (Pesaran and Pesaran, 1991) variable deletion facility which enables testing for the statistical significance of deleting one or more variables from the regression equation. Alternative specifications of the expenditure model using all possible subsets of regressors were also estimated and compared. The estimation results show that most of the explanatory variables—except for land area, percentages of the population 65 years old

and over, and 14 years old and below—had the expected signs. They were all positively related to local government expenditures. However, many of these coefficients were not significantly different from zero (Appendix 7.4).

Table 7.7 shows the estimation results of the most preferred specification. All the explanatory variables in this specification of the expenditure model had estimated coefficients significantly different from zero at the 10 per cent level of significance. Together these variables explained 76 per cent of the variances in per capita local government expenditures. The adjusted R-squared statistic was higher than in all other alternative specifications indicating it was a more parsimonious model[6].

Table 7.7 **Regression estimates of the local government expenditure model**

Dependent variable: Per capita current local government expenditures
Number of observations: 65

Explanatory variables	**Estimated coefficients**	**t–values**
Constant	-0.48	-0.40
Revenue capacity	0.32	8.67
Per capita transfers	0.52	7.55
Population density	0.10	2.90
Population in agriculture & services	0.22	2.85
Political fragmentation	0.11	2.26
Consumer price index (non-food)	0.27	1.65
R–squared : 0.76		
Adjusted R–squared : 0.74		
Diagnostic test statistics	LM Version	
Functional form	Chi–squared(1) = 0.33 [0.57]	
Normality	Chi–squared(1) =12.69 [0.00]	
Heteroscedasticity	Chi–squared(1) = 0.92 [0.34]	

Source: Author's calculation

The estimated equations were also tested for functional form (Ramsey's test), normality (Jarque–Bera's test), and heteroscedasticity (Glejser's test). Only the normality assumption appeared to be violated. The non-normality problem may not be too serious, as the deletion of the outliers (such as Manila and Batanes) did not significantly affect the regression results. Note also that the assumption of normality is almost always arbitrary

[6]Appendix 4 presents the estimation results of some alternative specifications of the expenditure model.

and the central limit theorem assures that inferences based on the least squares estimator are approximately valid in all but small samples (Fox, 1991; p.40).

Tests of linear relationship among the explanatory variables were also made. The measurement of expenditure needs based on regression analysis assumes that there are no serious multicollinearity problems especially between capacity and cost variables. Multicollinearity can cause least squares regression estimation to be unstable and imprecise through its effects on the variance of the estimated coefficients.[7] The impact of multicollinearity on the precision of estimation is captured by $1/(1-R_j^2)$, called the variance inflation factor (VIF). Note that it is not the pairwise correlations among the explanatory variables that appear in the variance inflation factor, but the multiple correlation for the regression (R^2) of a particular explanatory variable (j) on the others. Table 7.8 presents the coefficients of multiple correlation of the explanatory variables in table 7.7 and their corresponding variance inflation factors.

Table 7.8 **Coefficients of multiple correlation of explanatory variables and their variance inflation factors**

Explanatory variables	R–squared	Variance inflation factor
Revenue capacity	0.60	2.50
Per capita transfers	0.43	1.75
Population density	0.58	2.38
Population in agriculture & services	0.58	2.38
Political fragmentation	0.69	3.23
Consumer price index (non-food)	0.07	1.08

Source: Author's calculation

The results show that there were multicollinearities among the explanatory variables, but the multicollinearities were not so severe as to seriously affect the precision of the estimates. Fox (1991, p.11) noted that the linear relationship among the explanatory variables must be very strong before multicollinearity seriously degrades the precision of

[7]The estimated variance of the least squares regression coefficient bj is calculated as:

$$\hat{V}(b_j) = \frac{s^2}{(n-1)s_j^2} x \frac{1}{1-R_j^2}$$

estimation; for example, it is not until R_j^2 approaches 0.81 that the precision of estimation is halved.

Following the method used by Bradbury, et al. (1984), the estimation results of equation 3 are used to calculate a cost index. It is used to predict what a province would have spent if it had average resources and average demand, but its own set of cost factors. This is done by substituting the average values for revenue capacity, central government transfers, and political fragmentation into the estimated regression equation, but retaining the actual values of the socioeconomic cost variables. Thus, the variation in the predicted expenditures would be solely due the variation in socioeconomic cost factors.

A cost index for each province is computed by dividing its predicted expenditure by the average predicted expenditures of all provinces. As Bradbury, et al. (1984, p.160) noted, the value of this index for a particular community can be interpreted as one, plus the proportionate increase in spending in that community that is due to that community's socioeconomic cost factors compared to the average.

Table 7.9 **Estimated cost indices of selected provinces**

Provinces	Cost index
High cost	
Metro Manila	1.32
Sulu	1.25
Ifugao	1.14
Average cost	
Quirino	1.00
Bukidnon	1.00
Low cost	
Pampanga	0.92
Nueva Viscaya	0.91
Negros Occidental	0.86

Source: Author's calculation

Table 7.9 presents the estimated cost index of some provinces (Appendix 7.5 provides a complete list of the estimated cost index). The estimated cost index suggests that provision of a given set of public services would cost 32 per cent more per capita in Metro Manila than in Quirino or Bukidnon. Negros Occidental which has a cost index of

0.86 would spend 14 per cent less per capita than the average cost provinces in providing the same services. Sulu would have to spend 25 per cent more per capita than Quirino, and 34 per cent per capita more than Nueva Viscaya.

Given the estimated cost index, the next step in estimating a measure of expenditure need is the choice of a standard level of public service. The level of public service is a policy choice variable. It is standardised so that expenditure needs reflect differences that are solely due to cost factors which are beyond the control of local governments. Several studies Bradbury, et al., 1984; Park, 1989; Rao and Aggarwal, 1991) have used average expenditure as the standard.

The expenditure need of each province is computed by multiplying its respective cost index by the average per capita expenditures of all provinces (which is used as the standard). A comparison of the estimated expenditure need and actual expenditures, shows the provinces with high actual expenditures do not necessarily have high expenditure needs. The Spearman rank correlation coefficient, which is equal to 0.04 suggests there was no significant positive relation between actual expenditures and expenditure need. Out of 65 provinces, 34 provinces had higher ranking in actual expenditures than in expenditure needs. Palawan, for example which ranked 65th (highest) in actual per capita expenditures, ranked only 20th in expenditure need (see Appendix 7.5 for details).

The estimated expenditure need and the actual expenditure of each province are plotted in Figure 7.3. It shows that there was considerably less variability in expenditure needs than actual expenditures. This is because expenditure needs reflect variations attributed to differences in costs alone. This feature of expenditure needs is important in the design of central government transfers, as the next chapter will show.

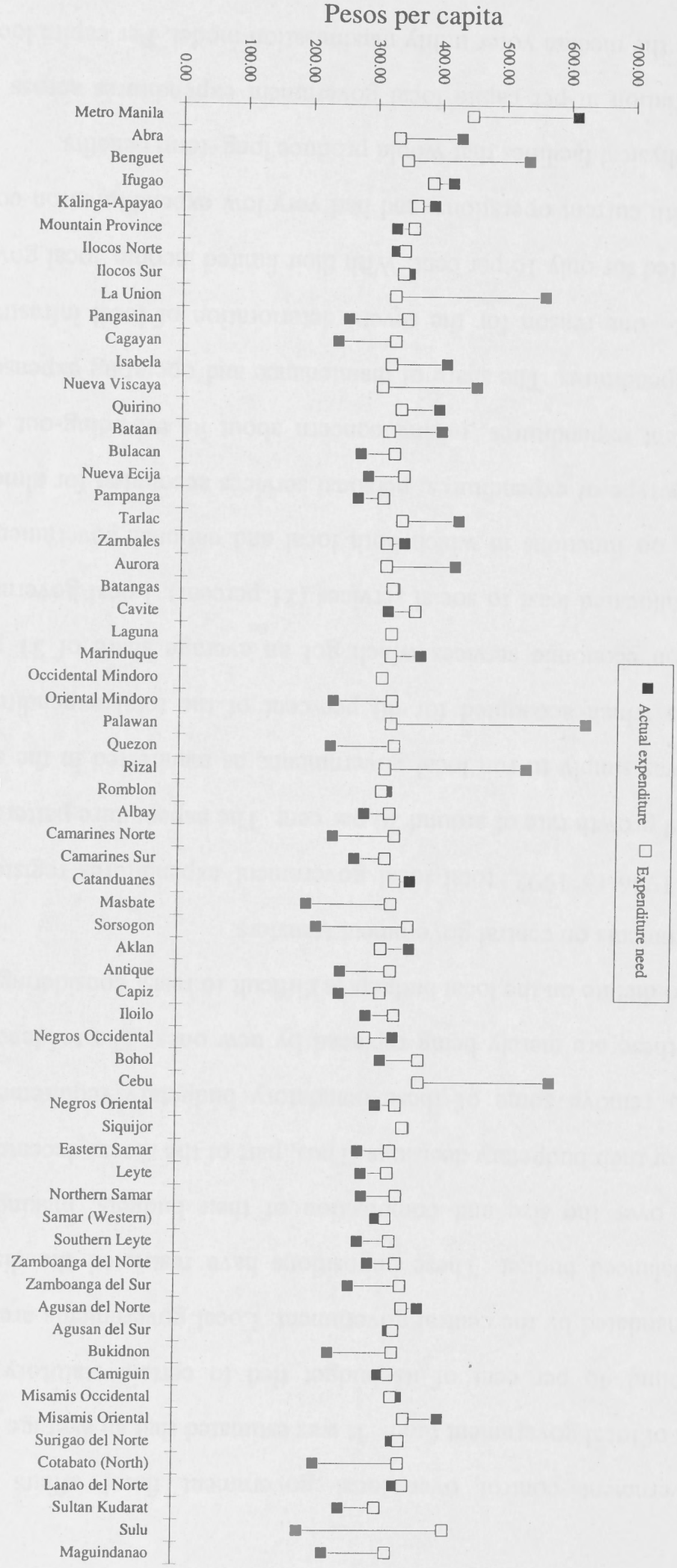


Figure 7.2 Comparison of actual expenditure and expenditure need, by province, 1991

Summary

Central government control over local government fiscal affairs extends to the expenditures of local government funds. It was estimated that an average local government unit had around 46 per cent of its budget tied to certain statutory and contractual obligations mandated by the central government. Local governments are also required to maintain a balanced budget. These impositions have restricted the discretion of local governments over the size and composition of their budgets, making them feel less accountable for their budgetary decisions. Thus, part of the recent decentralisation reforms have been to remove some of these mandatory budgetary requirements, although it appears that these are merely being replaced by new ones. The tendency of the central government to dictate on the local budgets is difficult to resist considering the dependence of local governments on central government transfers.

From 1986 to 1992, total local government expenditures registered an average nominal annual growth rate of around 20 per cent. The expenditure pattern shows that the first priority was simply to run local governments, as manifested in the share of general public services which accounted for 40 per cent of the total expenditures. They then concentrated on economic services which got an average share of 31 per cent of the budget. They allocated least to social services (21 percent). Local governments appeared to spend little on functions in which both local and national governments were jointly responsible. By type of expenditures, personal services accounted for almost half of total local government expenditures, raising concern about its crowding-out effect on other government expenditures. The share of maintenance and operating expenses had declined to 32 per cent—one reason for the severe deterioration of local infrastructure. Capital outlays accounted for only 16 per cent. With their limited income, local governments were preoccupied with current operations, and had very low expenditures on construction and acquisition of physical facilities that would produce long–term benefits.

The variation in per capita local government expenditures across provinces was examined using the median voter utility maximisation model. Per capita local government expenditures were regressed on revenue capacity, central government transfers, and the

political and socioeconomic characteristics of the provinces. The regression results showed that revenue capacities and per capita transfers (representing available financial resources), and the number of local government units per capita (representing political preferences) were significantly positively related to per capita expenditures. Among the various socioeconomic characteristics, only population density, consumer price index, and percentage of the population in agriculture and services appeared to be the significant determinants. These socioeconomic characteristics were referred to as expenditure need or cost disability factors beyond the control of local governments. The regression result provided a way of segregating the effects of each factor on local government expenditures, and was used to calculate a cost index for each province which abstracts from preferences and resource effects. The different provincial cost indices were then multiplied to the average per capita expenditures of all provinces to arrive at a measure of the expenditure needs of each province. The expenditure need so measured, thus reflects variations attributable to cost factors alone. A comparison of the estimated expenditure needs and actual expenditures shows that provinces with high actual expenditures do not necessarily have high expenditure needs. This fact should be considered in the design of an equitable system of central government transfers.

Appendix 7.1 Basic services to be provided by local government

	Barangay	Municipality	Province	City
Agriculture and fisheries	Support services which include distribution system of planting materials and operation of buying stations	Extension and on site research services which include dispersal of livestock, poultry fingerlings and seeding materials for aquaculture; seed farms and nurseries; inter–barangay irrigation systems, wastes and soil resource utilisation projects; enforcement of fishery laws	Extension and on site research including prevention and control of plant and animal pests and diseases; dairy farms, livestock markets, animal breeding stations; assistance in organising cooperatives.	All services and facilities of the municipality and province
Industrial development	—	—	Industrial research and development services, as well as transfer of appropriate technology	All services and facilities of the municipality and province
Forestry and natural resources	—	Implementation of community based forestry projects which include integrated social forestry programs; control of communal forests with an area not exceeding 50 sq. km.; tree parks, green belts, and other similar forest development projects.	Enforcement of forestry laws limited to community based forestry projects, pollution control law, small scale mining law, and other laws protecting the environment; mini–hydro electric projects for local purposes.	All services and facilities of the municipality and province
Health services	Maintenance of *barangay* health centre.	Implementation of programs and projects on primary health care, maternal and child care, and communicable and non–communicable disease control services; purchase of medicines, medical supplies and equipment.	Hospital and tertiary health services.	All services and facilities of the municipality and province
Social welfare services	Maintenance of *barangay* day care centre.	Welfare programs and projects for the children, youth, family, women, elderly and disabled; community based rehabilitation programs for vagrants, beggars, street children, juvenile delinquents, drug victims; livelihood and poverty alleviation projects; nutrition services; family planning services.	Programs and projects on rebel returnees and evacuees; relief operations; population development services.	All services and facilities of the municipality and province

Information services	Information and reading centre.	Investment and job placement information system, tax and marketing information systems, maintenance of a public library	Upgrading and modernisation of a tax information and collection services through the use of computer and other means.	All services and facilities of the municipality and province
General hygiene and sanitation	Services and facilities to general hygiene and sanitation, beautification and solid waste collection.	Solid waste disposal or environmental management system and services or facilities related to general hygiene and sanitation.	—	All services and facilities of the municipality and province
Public facilities	Multi–purpose hall, plaza, sports centre.	Municipal buildings, cultural centres, public parks including freedom parks, playgrounds and sports facilities and equipment; sites for police and fire stations and municipal jails.	Provincial buildings, jails, freedom parks and other public assembly areas.	All services and facilities of the municipality and province
Infrastructure	Maintenance of *barangay* roads and bridges and water supply systems; multi–purpose pavement.	Infrastructure facilities intended primarily to service the needs of residents and which are funded out of municipal funds including, municipal roads and bridges; school buildings and other facilities for primary and secondary schools; clinics, health centres, and other health facilities; communal irrigation, small water impounding projects; fish ports; artesian wells and water supply system; seawalls, dikes, drainage, sewerage and flood control; traffic signals and road signs.	Infrastructure facilities intended to service the needs of residents of the province and which are funded out of provincial funds including but not limited to provincial roads and bridges; inter–municipal waterworks, drainage and sewerage, flood control, and irrigation systems; reclamation projects.	All services and facilities of the municipality and province
Municipal enterprises	Satellite or public market, where viable.	Public markets, slaughterhouses; public cemetery	—	All services and facilities of the municipality and province
Tourism	—	Tourism facilities and other tourist attractions, including the acquisition of equipment, regulation and supervision of business concessions and security	Tourism development and promotion programs.	All services and facilities of the municipality and province

Housing	—	—	Programs and projects for low cost housing and other mass dwellings, except those funded by Social Security System, and the Housing Development Mutual Fund.	All services and facilities of the municipality and province
Communications	—	—	Inter–municipal telecommunication services, subject to national guidelines	Communication and transport facilities
Others	Barangay justice system	—	Investment support services, including access to credit.	Support for education, police and fire services and facilities.

Source: World Bank, 1993. *The Philippines Fiscal Decentralization Study*, Report No. 10716–PH, Washington.

Appendix 7.2 **Per capita expenditures by province, 1991**

Province	Total expenditure	Current expenditure	Personal services	Maintenance and operating	Capital outlay
Sulu	195.15	163.34	91.48	71.85	31.82
Masbate	198.59	162.14	109.16	52.97	36.46
Sorsogon	214.49	188.73	128.09	60.64	25.76
Cotabato (North)	218.95	193.72	115.76	77.96	25.23
Quezon	233.17	212.13	139.82	72.31	21.04
Maguindanao	234.28	203.63	119.73	83.90	30.65
Mindoro Or.	237.18	176.64	124.23	52.41	60.54
Camrines Norte	238.67	193.46	128.29	65.17	45.21
Bukidnon	238.96	203.20	135.96	67.23	35.76
Cagayan	239.76	212.41	147.93	64.48	27.35
Capiz	251.19	219.67	125.82	93.84	31.52
Antique	251.99	229.33	152.07	77.26	22.66
Pangasinan	256.31	233.94	122.63	111.31	22.37
Sultan Kudarat	258.54	219.95	135.11	84.84	38.59
Zamboanga del Sur	269.45	199.18	141.92	57.27	70.27
Camarines Sur	272.27	223.83	136.10	87.73	48.44
Pampanga	272.35	232.39	122.05	110.34	39.96
Bulacan	275.62	239.22	124.27	114.95	36.40
Eastern Samar	281.59	239.06	181.07	57.99	42.53
Southern Leyte	283.08	233.45	142.95	90.49	49.64
Albay	286.84	223.67	133.45	90.22	63.17
Nueva Ecija	287.62	256.22	152.80	103.42	31.40
Northern Leyte	287.89	244.37	164.00	80.37	43.52
Northern Samar	288.18	219.21	143.06	76.15	68.98
Iloilo	292.91	237.51	150.46	87.05	55.39
Zamboanga del Norte	299.55	238.27	182.25	56.02	61.28
Negros Or.	308.23	245.80	170.86	74.93	62.43
Western Samar	311.37	249.18	168.18	81.01	62.18
Mindoro Occ.	313.72	267.16	175.38	91.78	46.57
Bohol	315.64	272.88	166.33	106.55	42.76
Camiguin	317.39	309.57	222.60	86.97	7.83
Cavite	320.47	261.22	137.96	123.26	59.25
Romblon	321.79	238.58	164.48	74.10	83.21
Laguna	324.96	249.98	133.25	116.74	74.98
Ilocos Norte	328.86	318.85	210.74	108.11	10.01
Mountain Province	329.32	299.74	222.02	77.72	29.59
Batangas	330.14	271.65	167.95	103.70	58.49
Agusan del Sur	333.41	252.25	168.42	83.83	81.16
Negros Occ.	334.94	261.06	158.85	102.22	73.88
Surigao del Norte	340.20	293.54	198.83	94.71	46.66
Lanao del Norte	343.49	251.60	182.20	69.40	91.89
Zambales	345.03	311.29	211.08	100.21	33.74
Misamis Occ.	347.22	313.90	239.77	74.13	33.32
Ilocos Sur	349.98	286.66	161.38	125.28	63.32
Siquijor	353.66	285.53	244.97	40.56	68.13
Catanduanes	358.89	269.60	171.63	97.97	89.30
Aklan	359.05	215.15	149.17	65.98	143.91
Marinduque	371.86	307.64	210.26	97.37	64.23
Agusan del Norte	377.43	303.25	222.61	80.63	74.19
Kalinga-Apayao	387.95	368.88	216.17	152.70	19.07
Quirino	397.34	314.59	230.77	83.82	82.76
Bataan	401.66	310.70	178.17	132.54	90.96
Isabela	408.54	298.61	133.96	164.64	109.94
Misamis Or.	411.09	362.65	257.99	104.67	48.43
Ifugao	416.79	299.43	182.53	116.90	117.35
Aurora	423.71	340.19	252.63	87.56	83.52
Tarlac	428.66	254.69	113.15	141.54	173.97
Abra	429.37	406.53	215.81	190.72	22.84
Nueva Viscaya	455.43	377.79	183.27	194.52	77.63
Benguet	534.30	378.23	253.15	125.08	156.07
Rizal	537.31	327.94	191.37	136.57	209.38
La Union	560.56	373.86	149.74	224.12	186.70
Cebu	578.23	380.80	193.38	187.42	197.43
Metro Manila	608.47	414.42	233.81	180.60	194.06
Palawan	628.38	463.37	262.84	200.53	165.01
Batanes	1290.59	1214.71	719.21	495.50	75.89

Appendix 7.3 **Socioeconomic characteristics of provinces**

Province	PTR	API	CPI	PDEN	PAS	PURB	P65	P14	POV	AREA	LRD	NCM	POP
Metro Manila	129.56	29271.00	162.20	16479.50	31.60	100.00	2.40	33.50	13.23	636.00	4.35	17	7948392
Abra	334.88	6168.00	145.83	187.71	72.70	23.90	6.00	38.30	66.24	3975.55	2.20	27	184743
Benguet	218.69	19839.43	147.77	552.76	52.20	53.20	2.50	39.10	11.47	2655.38	1.50	14	485857
Ifugao	352.27	6659.00	158.77	579.64	77.00	10.80	3.40	43.60	62.42	2517.78	2.87	10	147281
Kalinga-Apayao	355.10	9498.00	153.53	262.49	85.00	14.50	3.00	42.00	40.40	7047.64	1.15	15	211775
Mountain Province	271.14	8159.00	157.98	241.52	80.50	9.00	5.20	39.50	51.35	2097.33	1.05	10	116535
Ilocos Norte	236.06	12836.00	157.50	318.50	59.30	28.30	7.10	35.00	46.93	3399.34	2.01	23	461661
Ilocos Sur	221.71	13304.00	148.90	375.67	57.60	24.10	7.00	35.60	48.08	2579.58	1.82	34	519966
La Union	543.78	13824.00	148.90	456.12	45.00	28.70	5.70	37.40	40.83	1493.09	0.79	20	548742
Pangasinan	197.70	11349.00	157.80	497.12	51.60	45.90	4.80	39.50	51.21	5368.18	1.14	48	2020273
Cagayan	193.10	11624.00	146.30	234.96	62.30	23.60	4.30	39.90	49.30	9002.67	0.83	29	829867
Isabela	329.98	11799.00	157.10	235.03	52.10	22.90	3.10	40.70	36.77	10664.56	0.78	37	1080341
Nueva Viscaya	434.98	10609.00	137.30	338.70	43.10	23.90	3.60	40.20	45.45	3903.87	2.45	15	301179
Quirino	363.42	8118.00	150.40	224.44	70.00	25.50	3.10	41.70	58.85	3057.20	0.91	6	114132
Bataan	252.28	17274.00	139.90	614.21	37.40	74.80	3.00	39.10	32.09	1372.96	1.05	12	425803
Bulacan	152.75	19836.00	169.10	812.17	29.30	79.90	3.50	37.40	16.16	2625.00	1.29	24	1505219
Nueva Ecija	192.65	11033.08	155.20	396.60	55.40	39.00	4.00	38.40	41.36	5284.33	0.86	32	1312680
Pampanga	190.55	16679.52	132.70	929.35	29.40	70.60	3.40	38.20	26.83	2180.68	1.30	22	1532615
Tarlac	199.31	10892.35	143.70	464.77	55.00	29.90	4.10	38.30	44.55	3053.45	1.21	18	859708
Zambales	212.29	17382.48	123.00	483.76	47.20	65.30	3.30	36.80	35.97	3714.40	0.92	14	562992
Aurora	281.90	10658.00	165.00	105.73	65.50	43.60	2.80	43.00	44.31	3239.54	0.31	8	139573
Batangas	181.54	15160.32	154.10	556.40	38.30	27.00	4.50	38.30	33.92	3165.81	1.19	34	1476783
Cavite	167.43	18600.00	202.30	1146.23	31.60	76.20	3.50	36.50	19.02	1287.55	1.30	23	1152534
Laguna	151.17	18231.04	156.90	1017.10	28.40	74.40	3.20	37.60	23.86	1759.73	0.85	30	1370232
Marinduque	242.92	16028.00	157.90	251.66	52.40	17.30	4.40	42.70	61.81	959.25	0.61	6	185524
Occidental Mindoro	253.73	11852.00	144.60	181.14	56.60	33.00	2.70	43.70	45.21	5879.85	0.80	11	282593
Oriental Mindoro	187.70	12297.00	150.40	247.13	58.10	25.50	2.90	44.60	56.05	4364.72	0.52	15	550049
Palawan	409.64	10436.00	167.60	117.98	70.60	31.40	2.50	43.10	52.53	14896.26	0.46	22	528287

Province	PTR	API	CPI	PDEN	PAS	PURB	P65	P14	POV	AREA	LRD	NCM	POP
Quezon	165.97	10598.91	164.10	290.55	51.30	33.00	3.30	41.40	50.94	8706.60	0.29	41	1372455
Rizal	118.65	20655.00	147.80	1529.92	22.70	95.50	2.40	38.20	27.52	1308.92	1.55	14	977448
Romblon	294.47	6871.00	144.40	246.76	49.90	22.10	4.10	42.30	80.56	1355.93	1.24	17	227621
Albay	200.53	7827.00	161.00	438.29	40.10	31.70	4.00	42.80	54.90	2552.57	0.61	18	903785
Camarines Norte	162.66	7989.00	173.60	279.21	49.90	33.90	3.10	43.00	56.18	2112.49	0.38	12	390982
Camarines Sur	198.51	9361.00	173.60	357.25	36.60	35.20	3.60	44.10	50.93	5266.82	0.88	37	1305919
Catanduanes	284.37	10439.00	194.30	255.03	46.00	27.90	5.50	41.80	37.08	1511.48	0.72	11	187000
Masbate	174.69	6094.00	158.80	227.56	57.60	25.00	3.20	45.40	66.59	4047.69	0.25	21	599355
Sorsogon	161.29	7633.00	178.90	301.30	62.70	26.80	4.10	43.80	54.93	2141.44	0.43	16	522960
Aklan	223.45	11413.00	141.50	370.14	43.50	24.30	5.70	39.50	35.44	1817.89	0.99	17	380497
Antique	193.52	8777.00	153.70	280.78	55.30	28.90	5.40	40.70	57.60	2522.01	0.65	18	406361
Capiz	222.39	7514.00	146.40	344.57	42.90	28.20	4.10	41.00	56.30	2633.17	0.80	17	584091
Iloilo	209.35	11450.07	167.80	445.16	43.60	29.79	5.10	38.50	43.59	5323.97	0.83	47	1765476
Negros Occidental	208.90	9883.05	139.60	378.94	30.80	45.60	3.20	40.70	43.06	7926.07	0.83	32	2256908
Bohol	187.34	7096.00	206.20	305.49	65.60	25.30	6.00	38.70	56.63	4117.26	1.24	48	948403
Cebu	186.87	11192.07	189.50	719.66	49.50	52.40	4.00	39.00	33.55	5088.39	0.87	53	2646517
Negros Oriental	209.82	9753.00	142.20	357.47	61.80	23.90	3.70	40.60	47.96	5402.27	0.64	25	925272
Siquijor	280.54	6067.00	145.50	333.34	72.10	12.10	8.00	37.00	55.19	343.50	1.29	6	73932
Eastern Samar	236.57	10039.00	143.70	230.33	67.20	75.90	5.10	41.10	32.07	4339.65	1.07	23	329335
Leyte	186.67	8620.00	144.60	362.24	51.30	32.73	4.00	42.30	45.37	6268.26	0.68	51	1485828
Northern Samar	238.16	9077.00	158.50	258.99	64.30	35.40	3.90	44.10	29.79	3497.98	0.37	24	383654
Samar (Western)	270.68	6943.00	136.60	271.68	60.80	25.60	3.90	43.10	46.20	5591.00	0.30	26	533733
Southern Leyte	261.33	9457.00	153.30	255.59	59.50	20.50	5.50	39.90	30.90	1734.80	0.80	19	321940
Zamboanga del Norte	260.03	7005.00	145.00	257.97	72.50	21.70	2.80	41.80	57.97	6618.11	1.26	27	676862
Zamboanga del Sur	240.04	10002.54	155.10	372.81	62.60	42.50	2.50	42.70	40.80	8052.00	1.06	41	1544520
Agusan del Norte	244.46	8578.84	158.70	698.57	47.60	47.40	2.80	41.60	49.95	2590.29	1.49	12	465458
Agusan del Sur	227.79	7962.00	152.80	189.85	75.70	24.40	1.90	45.10	61.09	8965.50	0.54	14	420763
Bukidnon	173.86	8200.00	156.00	251.16	63.90	31.40	2.00	45.20	53.77	8293.78	1.22	22	843891
Camiguin	221.36	6644.00	148.30	309.31	56.80	33.90	5.60	38.80	63.62	229.80	1.33	5	64247
Misamis Occidental	257.27	7793.00	154.20	338.48	56.20	31.90	4.20	38.30	63.51	1939.32	1.71	17	424365
Misamis Oriental	222.54	11558.38	172.90	494.43	53.30	66.30	2.90	40.40	44.70	3570.03	1.47	26	865051

Province	PTR	API	CPI	PDEN	PAS	PURB	P65	P14	POV	AREA	LRD	NCM	POP
Surigao del Norte	255.21	8064.00	160.20	350.39	62.40	48.00	3.70	40.90	52.93	2739.02	1.24	28	425978
Cotabato (North)	172.84	7321.00	147.30	509.43	58.10	18.10	2.60	43.60	60.38	6725.90	0.87	17	763995
Lanao del Norte	172.36	8469.44	168.20	387.51	61.40	24.30	2.10	42.40	57.17	3092.04	1.05	23	614092
Sultan Kudarat	229.85	10235.00	132.10	182.86	65.70	31.00	2.30	43.60	48.01	4714.80	0.84	12	435905
Sulu	179.02	6581.00	167.10	985.53	85.20	17.30	1.30	39.40	50.97	1600.40	1.87	19	469971
Maguindanao	170.93	10332.94	151.60	247.12	61.30	32.20	1.40	43.60	43.36	4887.60	0.50	19	757739
Batanes	1587.35	23563.00	0.00	202.18	55.10	33.60	7.10	35.80	4.86	209.28	2.84	6	15026

Note: PTR – per capita transfers (pesos per capita)
API – average per capita income (pesos per capita)
CPI – consumer price index, non–food items (pesos)
PDEN – population density (population per square kilometer of alienable and disposable land
PAS – population in agriculture and services
PURB – population in urban areas
P65 – proportion of population 65 years old and over
P14 – proportion of population 14 years old and below
POV – poverty incidence
LRD – road density (kilometers of local roads per square kilometer of alienable and disposable land
NCM – number of cities and municipalities
POP – population

Sources: Data on transfers based on Philippines, Commission on Audit, 1991. *Working Papers, 1991*, Quezon City.
Data on average per capita income, National Statistics Office, 1994. 1991Family Income and Expenditure Survey.
Data on poverty incidence from the National Statistics Office, 1994. Letter from Mr. Tomas Africa (27 January 1994)
Data on roads from the Department of Public Works and Highways
All other data based on Philippines, National Statistics Office, *1990 Census of Population and Housing*, Manila; and Philippines, National Statistics Office, 1993, *Census Facts and Figures 1990*, Manila..

Appendix 7.4 **Ordinary least squares regression results of local government expenditure model**

Dependent variable: Per capita current local government expenditures

No. of observations	65	65	65	65	65	65
			Regression coefficients and t-values:			
Regressors:	Eq 1	Eq 2	Eq 3	Eq 4	Eq 5	Eq 6[1]
Constant	-0.71	-1.69	-0.65	-0.63	-0.46	-0.48
	(-0.25)	(-1.00)	(-0.51)	(-0.51)	(-0.38)	(-0.40)
Revenue capacity	0.28***	0.28***	0.29***	0.31***	0.32***	0.32***
	(5.42)	(5.99)	(6.77)	(7.58)	(8.10)	(8.67)
Per capita transfers	0.53***	0.52***	0.51***	0.53***	0.52***	0.52***
	(6.84)	(7.01)	(6.96)	(7.50)	(7.25)	(7.55)
Average per capita income	0.08	0.10				
	(0.79)	(1.01)				
Consumer price index	0.31*	0.30*	0.34**	0.27	0.28*	0.27*
	(1.76)	(1.78)	(2.04)	(1.64)	(1.69)	(1.65)
Population density	0.07	0.09*		0.10***	0.8*	0.10***
	(1.08)	(1.67)		(2.92)	(1.68)	(2.90)
Pop'n. in agriculture & services	0.25**	0.25***	0.20**	0.24***	0.22**	0.22***
	(2.44)	(2.83)	(2.35)	(2.91)	(2.64)	(2.85)
Pop'n in urban areas	0.04	0.04	0.04	0.03		
	(0.73)	(0.72)	(0.76)	(0.66)		
Population 65 yrs. & over	-0.007					
	(-0.10)					
Population 14 yrs. & below	-0.24					
	(-0.49)					
Poverty incidence	0.05	0.05				
	(0.59)	(0.63)				
Land area	-0.003					
	(-0.10)					
Local road density	0.01	0.02	0.07**		0.02	
	(0.32)	(0.45)	(2.42)		(0.44)	
Political fragmentation	0.10	0.12**	0.06	0.12**	0.10**	0.11**
	(1.42)	(2.17)	(1.32)	(2.56)	(2.06)	(2.26)
R-squared	0.77	0.77	0.75	0.76	0.76	0.76
Adjusted R-squared	0.71	0.72	0.72	0.73	0.73	0.74
Heteroscedasticity: Chi-squared (1)	1.18	1.20	0.16	0.84	0.76	0.92

Note: [1]Preferred model specification

*** Significantly different from zero at the 1 per cent level (2-tailed test)

** Significantly different from zero at the 5 per cent level (2-tailed test)

* Significantly different from zero at the 10 per cent level (2-tailed test)

Source: author's calculation

Appendix 7.5 **Actual expenditures, cost indices and expenditure needs of provinces**

Province	Actual expenditure (Pesos per capita)	Cost Index	Expenditure need (Pesos per capita)
Metro Manila	608.47	1.32	445.60
Abra	429.37	0.98	332.45
Benguet	534.30	1.02	345.56
Ifugao	416.79	1.14	385.61
Kalinga-Apayao	387.95	1.07	360.80
Mountain Province	329.32	1.05	356.29
Ilocos Norte	328.86	1.01	342.18
Ilocos Sur	349.98	1.01	340.45
La Union	560.56	0.97	328.78
Pangasinan	256.31	1.03	347.15
Cagayan	239.76	0.97	328.93
Isabela	408.54	0.95	322.39
Nueva Viscaya	455.43	0.91	309.27
Quirino	397.34	1.00	338.45
Bataan	401.66	0.94	319.77
Bulacan	275.62	0.97	328.00
Nueva Ecija	287.62	1.01	343.20
Pampanga	272.35	0.92	311.63
Tarlac	428.66	1.01	340.97
Zambales	345.03	0.94	317.40
Aurora	423.71	0.94	317.19
Batangas	330.14	0.96	326.70
Cavite	320.47	1.07	362.31
Laguna	324.96	0.96	326.50
Marinduque	371.86	0.96	325.46
Occidental Mindoro	313.72	0.92	312.80
Oriental Mindoro	237.18	0.97	328.00
Palawan	628.38	0.97	327.40
Quezon	233.17	0.98	332.07
Rizal	537.31	0.94	318.57
Romblon	321.79	0.93	313.69
Albay	286.84	0.96	326.07
Camarines Norte	238.67	0.99	333.78
Camarines Sur	272.27	0.94	319.55
Catanduanes	358.89	0.99	334.93
Masbate	198.59	0.97	329.48
Sorsogon	214.49	1.05	356.54
Aklan	359.05	0.93	315.22
Antique	251.99	0.98	330.55
Capiz	251.19	0.93	314.90
Iloilo	292.91	0.99	336.38
Negros Occidental	334.94	0.86	291.78
Bohol	315.64	1.11	374.70
Cebu	578.23	1.11	375.04
Negros Oriental	308.23	1.00	339.80
Siquijor	353.66	1.04	351.25
Eastern Samar	281.59	0.98	332.18
Leyte	287.89	0.97	328.08
Northern Samar	288.18	1.01	341.78
Samar (Western)	311.37	0.96	325.87
Southern Leyte	283.08	0.98	332.54
Zamboanga del Norte	299.55	1.01	342.45
Zamboanga del Sur	269.45	1.03	350.32
Agusan del Norte	377.43	1.04	353.39
Agusan del Sur	333.41	1.00	340.06
Bukidnon	238.96	1.00	338.81
Camiguin	317.39	0.98	332.51
Misamis Occidental	347.22	1.00	338.28
Misamis Oriental	411.09	1.06	358.18
Surigao del Norte	340.20	1.04	350.96
Cotabato (North)	218.95	1.04	350.63
Lanao del Norte	343.49	1.06	357.93
Sultan Kudarat	258.54	0.93	315.73
Sulu	195.15	1.25	421.57
Maguindanao	234.28	0.98	332.60

Source: Auhtor's calculation

8
Central government transfers

Introduction

This chapter analyses the system of central government transfers to local governments. Its main objective is to assess whether central government transfers particularly, revenue sharing promote equity and/or encourage local government revenue efforts. Section 2 discusses the system of central government transfers and their role in local government finance. Section 3 brings together the results of the previous two chapters to construct a measure of the fiscal gap of each province. This is used to evaluate the equity of central government transfers. Section 4 examines the effect of central government transfers on revenue efforts of local governments, and the possible trade-off between the two objectives of promoting equity and revenue effort. The chapter concludes with suggestions for the revenue sharing system in the Philippines based on the system of central government transfers in selected countries.

The system of central government transfers

Central government transfers are traditional sources of local government finance. Broadly, they can be classified into two categories: revenue sharing and grants. Revenue sharing entails the allocation of fixed proportions of central government tax collections to local governments on the basis of formulas prescribe by law. Grants consist of monies given to local governments, usually under the discretion of the President, to finance specific projects.

Before 1992, there were three types of revenue sharing: internal revenue allotment, specific tax allotment, and the local government revenue stabilization fund. The internal revenue allotment was based on Presidential Decree No. 144 (1973), which entitled local governments to an annual share of 20 per cent of the national internal revenue tax collections of the third preceding year.[1] This provided local governments

[1]For example, in 1991 the internal revenue allotment to local governments should be equal to 20 percent of the national tax revenues collected by the Bureau of Internal Revenue (not earmarked for special funds and special accounts) in 1988.

with a source of predictable and sizable income which could be integrated into the local budgeting process (Bahl and Schroeder, 1983d).

However, Presidential Decree No. 144 was not fully implemented. It was amended by a series of decrees which made the distribution of the 20 per cent share in internal revenue tax collection of local governments virtually impossible. Presidential Decree No. 937 (1976) restricted the increase in the allotment of individual local government units to a maximum of 25 per cent of the preceding year's allotment. Presidential Decree No. 1231 (1977) pegged the amount of internal revenue allotment to the 1977 level from 1978 to 1980. In 1981 the cap was removed, and the 25 per cent ceiling on allotment increases was lifted for low income local governments. However, because of the budgetary constraints experienced by the central government, the internal revenue allotment appropriated to local governments remained considerably below the 20 per cent share prescribed under Presidential Decree No. 144. Worse, the appropriations were not fully released to local governments. From 1980 to 1990, the amount appropriated averaged 12.8 per cent of the internal revenue of the third preceding year, while the actual amounts released averaged only 8.5 per cent. This resulted in uncertainty in local government finances, and hampered local government planning (World Bank, 1993).

Presidential Decree No. 144 also prescribed the method of allocating the internal revenue allotments among local government units. Initially, only provinces, municipalities and cities were entitled to the allotments. In 1974, the *barangays* were included among the recipients of the allotments (Presidential Decree 559, 1974). Ten per cent of the internal revenue allotment was allocated to *barangays*. The remainder was then distributed as follows:

Provinces	-	30 %
Municipalities	-	45 %
Cities	-	25%

At each level, except for *barangays*, the allotments were allocated to individual local government units based on a formula: 10 per cent of the allotments was distributed equally among the individual units, 20 per cent was distributed proportionally to their

land area, and 70 per cent was distributed proportionally to their population size. The first factor was related to the fixed costs of running governments. The second and third were meant to account for the differences in expenditure needs.

The specific tax allotment established in 1974, consisted of fixed shares of local governments in the proceeds of specific taxes on a variety of petroleum products. Presidential Decree 436 (1974) earmarked to local governments, based on the second preceding year's collection: P 0.20 per liter of lubricating oil (or 40 per cent of the national tax); P 0.005 per liter of bunker fuel oil (or 33 per cent of the national tax; P 0.40 per liter of naphtha, gasoline, and other distilled oil products (or 14 per cent of national tax), and P 0.005 per liter of diesel fuel (or 5 per cent of the national tax).

Twenty-five per cent of the specific tax allotments was set aside for the *barangays*. It accrued to a special fund administered by the President, which was used for the maintenance and construction of *barangay* roads. The remainder was distributed as follows:

Provinces	-	20 %
Municipalities	-	30 %
Cities	-	50 %

The horizontal distribution to individual local government units in each level followed the formula for the distribution of internal revenue allotments. The proceeds went to the local governments' infrastructure funds, which were earmarked for the maintenance and repair of local roads and bridges, as well as for the construction of new projects.

The local government revenue stabilization fund was initiated under the General Appropriations Act of 1987 to cover the shortfalls in specific tax allotments. It became part of the succeeding annual appropriations Acts, to insure that specific tax allotments did not fall below the 1986 level. The amount was based on the difference between the current year's specific tax allotment and that of 1986.

In addition to the 20 per cent internal revenue allotment of local governments, Presidential Decree 144 set aside 5 per cent of internal revenue tax collection (not

earmarked for special funds and accounts) into a local government fund, known as the Budgetary Aid to Local Government Units. This fund was used for specific project grants. Local governments could tap this fund by submitting project proposals to a committee consisting of the Secretaries of Finance, Budget and Local Government. The committee was responsible for evaluating local government project proposals, and giving technical advice to the President, who administered the fund. Funding for approved projects was released directly to the local governments, which implemented the projects.

Table 8.1 shows the amount of central government transfers to local governments in the period 1986–92. Revenue sharing consisting of internal revenue allotment, specific tax allotment and local government revenue stabilisation fund had grown from P3.2 billion in 1986 to P15.4 billion in 1992 registering an average annual nominal growth rate of 26 per cent, Revenue sharing almost doubled in 1992 with the new local government code. Revenue sharing during the period accounted for an average of 76 per cent of central government transfers. Grants accounted for an average share of 24 per cent, but .they were very uncertain; their amounts fluctuated over the years. They were to be phased out beginning in 1992.

Table 8.1 **Central government transfers to local government revenues, Philippines, 1986–92**

	Current amount (billion pesos)							Average annual growth rate[1] (%)
	1986	1987	1988	1989	1990	1991	1992	
Revenue sharing	3.2	3.4	4.2	5.0	7.0	9.5	15.4	25.9
Grants	0.7	0.6	3.6	2.5	2.7	3.4	0.5	7.7
Share in resource revenue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-	n.a.
Total transfers[2]	4.0	4.0	7.8	7.5	9.7	12.9	16.0	24.0
	Distribution (per cent)							
	1986	1987	1988	1989	1990	1991	1992	Average
Revenue sharing	81.6	84.2	53.8	67.0	72.2	73.7	96.4	75.6
Grants	18.4	15.8	46.2	33.0	27.8	26.3	3.4	24.4
Share in resource revenue	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.2	n.a.
Total	100.0	100.0	100.0	100.0	100.0	100.00	100.00	100.0

Note: [1]Estimated using ordinary least squares regression
[2]Totals do not tally due to rounding.
Source of basic data: Philippines, Commission on Audit, 1986–92, *Annual Reports 1986-92*.

Aside from revenue sharing and specific project grants, other forms of central government assistance to local governments were collectively referred to as National Assistance to Local Government Units. These included: the *Barangay* Administration

Fund, the Concrete *Barangay* Roads/Multi-purpose Pavements Construction and Improvement Program, and the Local Roads Improvement, Repair and Maintenance Program. In contrast to the revenue sharing and specific project grants, these programs were carried out by central government agencies. Funding for these infrastructure projects was given to the Department of Public Works and Highways, which implemented the projects through its district offices. The *Barangay* Administration Fund, which was used to pay the salaries of some *barangay* officials, was administered by the Department of Local Government.

Table 8.2 **Budgetary allocations for national assistance to local government units, 1991**

Item	Amount (Billion Pesos)	Share (Percent)
Revenue sharing[a]	10.2	62
Budgetary aid to local government units	1.5	9
Concrete *barangay* roads/ multipurpose pavement construction program	1.5	9
Local road construction, repair and maintenance	1.3	8
Barangay administration fund	1.5	9
Others	0.6	4
Total national assistance to local government units	16.4	100

Note: [a]Combined internal revenue allotment, specific tax allotment and local government revenue stabilization fund

Source: Republic of the Philippines, Department of Budget and Management 1992. *Budget of Expenditures and Sources of Finance.*

Republic Act No. 7160 (Local Government Code of 1991) changed the system of national assistance to local governments in conjunction with reforms in their expenditure functions and revenue raising powers. The internal revenue allotment was increased and other forms of national assistance to local government units were abolished. The Act raised the share of local governments in the internal revenue tax collection to 30 per cent in the first year of its implementation, then to 35 in the second year, and finally to 40 per cent thereafter. The share of local governments is computed on the basis of the gross collections of national internal revenue taxes of the third year preceding the current year. In the first year, local governments receive an additional amount corresponding to the salaries of central government personnel transferred to them. Each local government unit

automatically receives its allotment without preconditions. However, in cases where the central government experiences an unmanageable public sector deficit, the President (upon the recommendation of the Secretaries of Finance, Interior and Local Government, and Budget, and in consultation with the officers of the two Houses of Congress, and the presidents of the leagues of local governments) can reduce the allotment to local governments. Such reduction should not be so great that local governments receive less than 30 per cent of the national internal revenues.

The Local Government Code of 1991 also modified the allocation of the allotment among local governments. It increased the share of the *barangays*, and correspondingly, reduced the share of provinces, cities and municipalities.

	Presidential Decree No. 144, as amended	Republic Act 7160
Provinces	25 %	23 %
Municipalities	40 %	34 %
Cities	25%	23 %
Barangays	10 %	20 %

The distribution formula at each local government level was also changed, giving less weight to population and more weight to land area and equal shares. The reasons for this were "to decongest the urban centres and develop the countryside", and "to effect a more equitable distribution of the internal revenue allotment" (Local Development Assistance Program, 1994, citing the "Transcript of the deliberations of the Lower House on the Local Government Code", 15 August 1990).

	Presidential Decree No. 144, as amended	Republic Act 7160
Population	70 %	50 %
Land area	20 %	25 %
Equal share	10 %	25 %

In 1992, the first year that Republic Act 7160 went into effect, the local government received P28.1 billion. This consisted of P18.1 billion representing the

internal revenue allotment appropriated under the General Appropriations Act of 1992, and P10 billion representing the costs of devolved functions, which included the salaries of central government personnel transferred to local governments. Executive Order No. 507 directed that P1.6 billion of the amount corresponding to the costs of devolved functions be added to the internal revenue allotment. Therefore, in 1992 the internal revenue allotment of local governments rose to P19.7 billion, an increase of 132 per cent over the previous year's allotment of P8.5 billion. In 1993, the internal revenue allotment amounted to P36.7 billion, representing a 332 per cent increase over the 1991 allotment (Local Development Assistance Program, 1994).

Aside from the internal revenue allotment, Republic Act No.7160 entitled local governments to a share in the gross collection of the national government from taxes and fees, and proceeds derived by any government agency or government-owned corporation in connection with the utilisation and development of natural resources in their respective territorial jurisdictions. The share of local governments is computed on the basis of the .collection or proceeds of the preceding fiscal year. The local governments receive either 40 per cent of central government collection or 1 per cent of the gross receipt of government-owned or controlled corporations, whichever is higher.

The share in the utilisation or development of natural resources is not expected to equally benefit all local governments since only those where the national resource is located are entitled to the share. When the natural resource is located in the province the share is distributed as follows: *barangays* (35 per cent), cities and municipalities (45 per cent), and the province (20 per cent). When the natural resource is located in an independent city, the share is divided between the city (65 per cent) and its component *barangays* (35 per cent). If the natural resource is located in more than one local government unit (e.g. two or more provinces or cities, etc.) the share is divided on the basis of population (70 per cent) and land area (30 per cent). The are no available data to estimate how much share local governments will receive from natural resource related collections and proceeds.

Other forms of central government assistance to local government were, however, abolished. If the total amount of national assistance to local government units

in 1991 is used as the basis of comparison, the net increments to the resources of local governments was modest. The total transfers in 1992 amounted to only a 71 per cent increase over the P16.4 billion total national assistance to local governments in 1991, while the allotment for 1993 constituted only a 124 per cent increase.

The internal revenue allotment and vertical fiscal imbalance

A major purpose of central government transfers is to enable local governments to carry out their expenditure functions. Local governments in the Philippines are given very limited revenue raising powers so that they are very dependent on transfers from the central government. Republic Act 7160 widened the gap between the expenditure requirements and revenue raising powers of local governments. It devolved to local governments the responsibility for the administration and provision of several government services previously held by central government agencies, but it added very little to their revenue raising powers.

Manasan (1992b) enquired whether the internal revenue allotment prescribed in Republic Act 7160 would be sufficient to match the new expenditure functions devolved to local governments. She calculated the difference between the projected increment in internal revenue allotment of local governments in 1993, when the new local government code would have been fully implemented, and the inflation adjusted cost of devolved functions and other national assistance to local government units in 1991. The latter represented local services whose financing were transferred from the central to the local governments. The cost of devolved functions was based on the 1992 budgets of national government agencies corresponding to the functions transferred to local government. Manasan noted that at the aggregate level, a 35 per cent internal revenue allotment to local governments for 1993 would result in a surplus to local governments of around P560 million. However, the effect on each level of local government varies. Her projection, based on actual data from a limited sample of local government units, showed that urban, industrial first class provinces would have surpluses, while rural, agricultural, third class provinces would have deficits. Both low and high income class municipalities would experience financial difficulties.

A World Bank (1993) study corroborated the findings of Manasan. It simulated the effects of Republic Act 7160 on local finances based on the local government budgets of 1990. The results showed that at the aggregate level, the increments in local government income tend to outweigh the additional expenditures. At 35 and 40 per cent shares of internal revenue, local governments would have had surpluses in 1990 of P0.2 billion and P2.1 billion, respectively. However, at a 30 per cent share, the increase in expenditures would have been greater than the increase in revenues, resulting in a deficit of P2.7 billion. At each level of local government, the simulation results showed that had Republic Act 7160 been operative in 1990, provinces and municipalities would have been in deficit, while cities and *barangays* would have had surpluses.

A more recent study of the Local Development Assistance Program (1994) based on actual data for 1993, showed that the new allotment system under Republic Act 7160 provided local governments with more financial resources. The total allotment for 1993 amounted to P36.7 billion which was higher than the 1991 allotment by P27.1 billion. Netting out the costs corresponding to the devolved functions which amounted to P6.6 billion, the net transfer (or surplus) to local government amounted to P20.5 billion in 1993. Note that unlike the previous two studies, the calculation of the net transfer did not take into account other national assistance to local government units[2] which were abolished under Republic Act 7160. Thus, the calculated amount of net transfer is overstated. With respect to the different levels of government, the study showed that cities had the highest net transfer followed by municipalities and provinces. The net transfer of cities amounted to P6 billion, and that of the municipalities a close second at P5.8 billion. The P3 billion net transfer to provinces was only half that to the cities. All local government units, except for two provinces (Bataan and Catanduanes) had positive net transfers.

In these studies, the costs of devolved functions were based on the previous budgets of the national government agencies. Manasan (1992b), and the World Bank (1993) noted certain limitations in this approach. First, the budgets of the national

[2]The data on national assistance to local government units (NALGU) are not disaggregated by local government units. Manasan (1992) and the World Bank (1993) made their own estimates of the national assistance received by each local government unit.

government agencies are likely to underestimate the costs of devolved functions because of the spending cuts of the national government in these services, as a result of its budgetary difficulties. Second, local governments may have different priorities; they may want different levels and composition of services than those the national government agencies used to provide. Finally, there could be some economies of scale in the provision of these services, which individual local governments could not exploit. Local government provision of the devolved services may entail a different cost structure.

An even greater limitation of these studies, which can be attributed to the limited data available, is that they simply compare the increments in the net transfers to local governments, and the costs of providing the services devolved to them. The internal revenue allotment should be evaluated in the wider context of all the services that have to be delivered by local governments and the revenues they could generate—that is, whether the allotment is sufficient to enable local governments to provide adequate levels of services assuming they exercise reasonable levels of revenue effort. Given the limited data currently available, this is an important aspect of central government transfers to local governments which merits future study.

Do central government transfers promote equity?

Based on the theoretical and conceptual framework presented in Chapter 5, the equity of central government transfers is evaluated in relation to the fiscal capacities of local governments in a given geographic and administrative area, specifically, the province. The revenue shares and grants of provinces are examined in relation to the two components of fiscal capacities—revenue capacities and expenditures needs—and their summary measures—the fiscal gaps. The distribution of central government transfers to local governments is considered to promote equity if it provides higher amounts to provinces with lower revenue capacities and/or higher expenditure needs, or if it minimizes the disparities in their fiscal gaps.

As in the previous chapters, the analysis is based on the local government financial statistics for 1991, before the new local government code took effect. The equity of the revenue sharing system is examined for three cases. Case 1 represents the

actual distribution of revenue shares to local governments in 1991. Case 2 simulates a distribution of revenue shares based on the provision of Presidential Decree No. 144, which was the basis of revenue sharing during that year. Since it was not fully implemented the distribution of revenue shares in the two cases is likely to differ. Case 3 simulates a distribution of revenue shares under the new local government code. The simulations are based on the total shares of the 65 sample provinces in 1991. The total amount is first divided by levels of government (i.e., provinces, municipalities and cities), and then allocated to individual local government units using the formula based on population, land area and equal shares. Table 8.3 provides a statistical summary of the revenue shares per capita of the provinces in the three cases, and their per capita grants.[3]

Table 8.3 **Variations in distribution of central government transfers per capita, by province**

	Revenue shares			Grants
	Case 1	Case 2	Case 3	
Maximum	370.60	377.95	460.75	412.39
Minimum	112.23	118.19	97.09	3.97
Mean	177.54	177.55	191.12	55.73
Standard deviation	48.47	49.16	72.55	60.44
Skewness	1.44	1.74	1.39	3.77
Coefficient of Variation	0.27	0.28	0.38	1.08

Source: Author's calculations

Revenue capacities and transfers. Horizontal inequity or unequal treatment of equals can occur as a result of unequal revenue capacities of local governments. To provide a given level of service, local governments with low revenue capacities have to impose higher tax rates on their residents than local governments with high revenue capacities. Transfers are a policy instruments which can address the problem of horizontal inequity.

The distribution of central government transfers promotes equity if local governments with low revenue capacities are given relatively higher amounts than those with high revenue capacities. Empirically, this could be examined by the correlation

[3]See Appendix 8.1 for the breakdown by province.

between the transfers and revenue capacities of local governments estimated in Chapter 6. Table 8.4 presents the Spearman rank correlation coefficients between revenue capacities and revenue shares, and between revenue capacities and grants.

Table 8.4 **Correlation between revenue capacities and transfers, by province**

Cases	Spearman rank correlation coefficient
Revenue shares	
Case 1	-0.3976
Case 2	-0.4177
Case 3	-0.3871
Grants	-0.1219

Source: Author's calculations

The Spearman rank correlation coefficients in all the three cases of revenue sharing were negative and significantly different from zero at the 5 per cent level of significance. They indicate that the distribution of revenue shares tended to promote equity. Provinces with low revenue capacities received higher revenue shares, and *vice versa*. The correlation coefficient between grants and revenue capacities was also negative, but it was not significant. Among the three cases, the revenue sharing distribution under Presidential Decree No. 144 appears to be the most progressive, and that under the new local government code, the least progressive. However, this is not sufficient to determine which of the revenue sharing systems is the most equitable.

The coefficient of inequality provides additional information on the equity of central government transfers. The transfers were added to the revenue capacities of each province, and the coefficients of inequality of the augmented revenue capacities in each case were computed. Table 8.5 shows the coefficients of inequality of revenue capacities of provinces without and with transfers.

Table 8.5 **Coefficients of inequality of revenue capacities of provinces**

Cases	Coefficient of inequality
Revenue capacities without transfers	19.30
Revenue capacities augmented by revenue shares:	
Case 1	11.02
Case 2	10.69
Case 3	11.26
Revenue capacities augmented by grants	23.24

Source: Author's calculations

The coefficients of inequality of augmented revenue capacities in all three cases of revenue sharing were lower than revenue capacities without revenue shares confirming that the revenue sharing distribution tended to promote equity. The coefficients also indicated that the most progressive distribution of revenue shares in relation to revenue capacity tended to be the most equitable. The coefficient of inequality of revenue capacities augmented by grants was higher than without them, indicating that the distribution of grants was inequitable.

Expenditure needs and transfers. Equalisation of revenue capacities, however, does not insure horizontal equity among individuals living in different areas. Differences in costs of providing services due to factors beyond local governments' control also cause horizontal inequity. Local governments in high cost areas had to spend more and charge their residents higher tax rates than in low cost areas. Thus, to promote equity, relatively higher transfers should be given to the former to compensate for their cost disabilities or expenditure needs.

Table 8.6 shows the Spearman rank correlation coefficients between revenue shares and expenditure needs estimated in Chapter 7. They were all positive, but the correlation coefficients were weak, and not significantly different from zero. Thus, it could not be concluded that revenue sharing distribution promotes equity in relation to expenditure needs. Grants appeared to be negatively related to expenditure needs, but the relation was not significant.

Table 8.6 **Correlation between expenditure needs and transfers, by province**

Cases	Spearman rank correlation coefficient
Revenue shares	
Case 1	0.0642
Case 2	0.0729
Case 3	0.0786
Grants	-0.1402

Source: Author's calculations

The coefficients of inequality of expenditure needs can also be used to assess the equity of transfers. Since transfers are expected to compensate for cost disabilities, they can be subtracted from the estimated expenditure needs of the provinces, and the coefficients of inequality of expenditure needs before and after transfers can then be compared. Table 8.6 shows that the coefficients of inequality of the compensated expenditure needs were higher than the uncompensated expenditure needs, suggesting that transfers tended to worsen inequality. The revenue sharing under the new local government code tended to be the most inequitable.

Table 8.7 **Coefficients of inequality of expenditure needs of provinces**

Cases	Coefficients of inequality
Expenditure needs without revenue shares	2.03
Expenditure needs compensated by revenue shares:	
Case 1	12.01
Case 2	11.66
Case 3	18.96
Expenditure needs compensated by grants	7.30

Source: Author's calculations

While the revenue sharing distributions promoted equity in revenue capacities, they seemed to worsen inequity in expenditure needs. This is because the two measures of fiscal capacities are weakly related. The Spearman rank correlation coefficient between revenue capacities and expenditure needs was only -0.1579, which is not significantly different from zero. Some provinces (e.g. Metro Manila, Cebu, Cavite) had

both relatively high revenue capacities and expenditure needs, and some provinces (e.g. Romblon, Western Samar, Mindoro Oriental) had both relatively low revenue capacities and expenditure needs. High revenue shares to the former would promote equity on the expenditure side, but would worsen inequity on the revenue side; while high revenue shares to the latter would yield the opposite result. There should be a strong negative relation between revenue capacities and expenditure needs for the distribution of revenue shares to simultaneously promote equity in both measures of fiscal capacities.

Fiscal gap and revenue shares. The fiscal gap provides a summary measure of fiscal capacity which avoids this dilemma. The fiscal gap measures the difference between what the province must spend to provide a basic package of local services and its available revenues at a standard level of revenue effort, that is (Bradbury, et al., 1984):

$$G_i = \bar{E}C_i - \bar{t}B_i \qquad (8.1)$$

The first term on the right hand side of the fiscal gap equation representing the expenditure need of province i, is equal to the product of its cost index (C_i) and the chosen standard of public service ($\bar{E}$). The average provincial per capita expenditure was used as the standard. The second term, representing the standardized revenue capacity of province i, is calculated by multiplying its revenue capacity (B_i) and the chosen standard of revenue effort ($\bar{t}$). The standard revenue effort was set equal to the average revenue effort computed in the random coefficient regression model, that is 55 per cent of revenue capacity. The level of public service and revenue effort are policy choice variables; they are standardised so that the fiscal gap reflects differences in fiscal capacity that are solely due to factors beyond the control of local governments.

Figure 8.1 presents the fiscal gap per capita of the 65 sample provinces. Except for Metro Manila, all had positive per capita fiscal gaps. Their expenditure needs exceeded their revenue capacities. Among the provinces with high fiscal gaps were Sulu, Ifugao and Mountain Province. Individuals living in these provinces were fiscally disadvantaged. Either they received substandard services for the same tax rates, or paid higher tax rates for the same level of services. The provinces with low fiscal gaps, aside

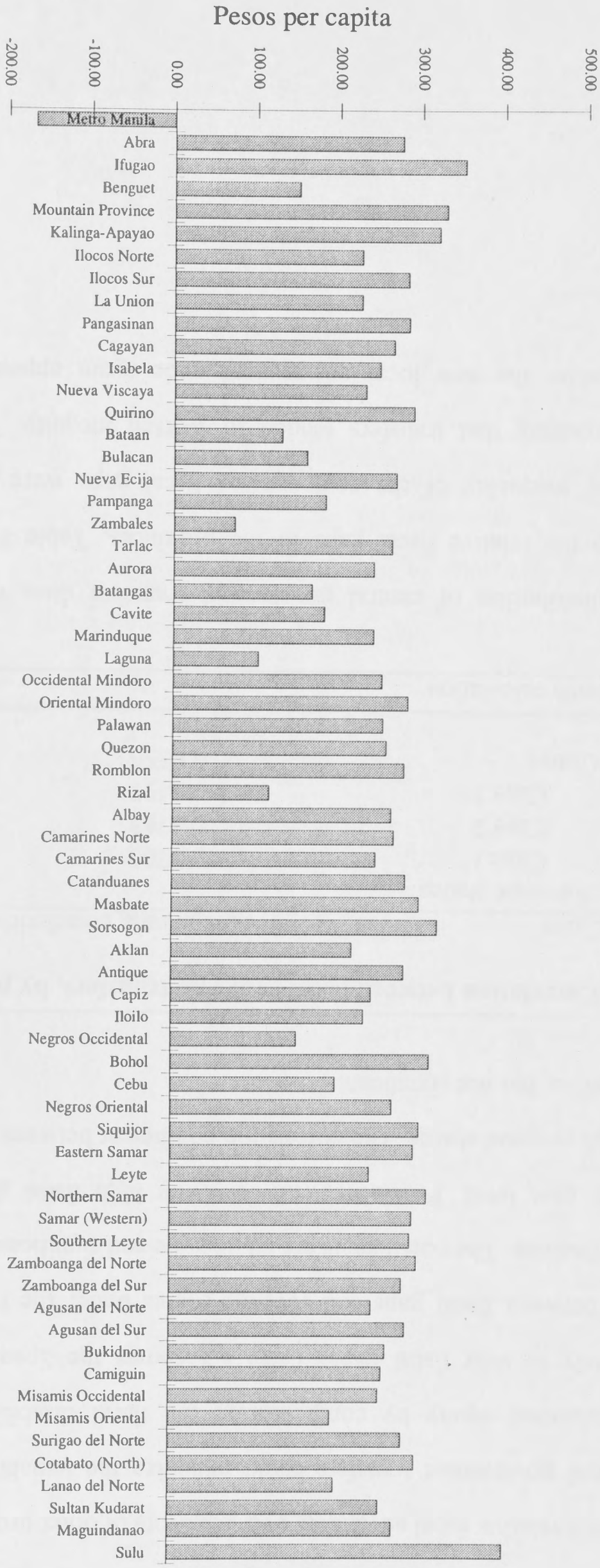


Figure 8.1 Fiscal gap per capita, by province, 1991

from Metro Manila, were Zambales, Laguna and Rizal (see Appendix 8.2). Their residents had a relative fiscal advantage over residents of other provinces.

Central government transfers could minimize the variability in fiscal gaps and promote horizontal equity by compensating the fiscal disabilities of the provinces proportionately to their fiscal gaps. Table 8.8 shows the Spearman rank correlation coefficients between fiscal gaps and revenue shares under the three different revenue sharing distributions. The coefficients are all positive and significantly different from zero at the 5 per cent level. Provinces with relatively high fiscal gaps tended to obtain relatively high revenue shares. The correlation coefficient between fiscal gaps and grants was also positive, but not significant.

Table 8.8 **Correlation between fiscal gaps and transfers, by province**

Cases	Spearman rank correlation coefficient
Revenue shares	
Case 1	0.3700
Case 2	0.3753
Case 3	0.3497
Grants	0.0556

Source: Author's calculation

The distribution of central government transfers does not appear to be in proportion to the relative fiscal gaps of the provinces. Table 8.9 indicates that the coefficients of inequality of the compensated fiscal gaps were higher than without transfers, suggesting that transfers tended to worsen inequity. The revenue sharing distribution under the new local government code again appeared to be the most inequitable.

Table 8.9 **Coefficients of inequality of fiscal gaps of provinces**

Cases	Coefficient of inequality
Fiscal gaps without revenue shares	10.50
Fiscal gaps compensated by revenue shares:	
Case 1	40.53
Case 2	40.49
Case 3	59.45
Fiscal gaps compensated by grants	17.82

Source: Author's computation

Table 8.10 provides a summary description of the computed fiscal gaps without and with revenue shares in the different revenue sharing distributions. The coefficients of variation of the compensated fiscal gaps were all higher than without revenue shares, corroborating the coefficients of inequality.

Table 8.10 **Variations in fiscal gaps (pesos per capita), by province**

	Fiscal gaps without revenue shares	Compensated fiscal gaps		
		Case 1	Case 2	Case 3
Maximum	756	619	616	619
Minimum	-288	-400	-408	-386
Mean	458	281	281	267
Standard deviation	144	135	135	136
Coefficient of Variation	0.31	0.48	0.48	0.51

Source: Author's calculations

The inequity of revenue sharing is likely to be higher if *barangays* are included in the analysis. Under the new local government code, the share of *barangays* in the internal revenue allotment was increased from 10 to 20 per cent. Each *barangay* with a population of not less than 100 inhabitants was entitled to receive at least P80,000. Part of the remaining amount was to be distributed equally among all *barangays* and part to be distributed on the basis of their population. Provinces with smaller and numerous *barangays*, therefore, would receive greater revenue shares per capita than those with bigger and fewer *barangays*. Considering, the wide diversity in the size and number of

barangays across provinces, this is likely to result in considerable inequity in revenue sharing.

The formula for the allocation of revenue shares under the new local government code, particularly the higher weight assigned to equal sharing, would be likely to result in greater horizontal inequity. It increases the proportion of revenue shares that is distributed independently of revenue capacities and expenditure needs of local governments. It is biased in favour of provinces with highly fragmented local governments.

Since the enactment of the new local government code in 1991, one new province, 9 municipalities and 93 *barangays* have been created. This may have unfavourable effects on the costs of local government services. The expenditure regression result in the previous chapter showed that local government fragmentation results in higher per capita expenditures. A Local Development Assistance Program (1994) study also noted that allocation of funds to *barangays* could dissipate scarce government resources. *Barangays* depend almost solely on revenue shares. In 1993, the average revenue share of *barangays* after deducting salaries for personal services was only P78,850. This was too small to finance any useful projects.

Compared to other countries, local governments in the Philippines are highly fragmented with 77 provinces, 60 cities, 1542 municipalities and 40,904 *barangays*. Indonesia, a much bigger country with a land area almost 6.5 times that of the Philippines and a population 3 times that of the Philippines, is divided administratively into 27 provinces, 296 regencies or municipalities, and approximately 3,320 districts and 66,000 urban and rural villages (Bawazier, 1988). Japan has only two tiers of local governments: prefectures and municipalities. It has consistently promoted the merger of municipalities because many of the existing ones are considered too small for the efficient supply of modern services. Japan had 47 prefectures and 3,245 municipalities (655 cities and 2,590 towns and villages) in 1990, compared to 10,520 municipalities in 1945 (Yonehara, 1981; FAIR, 1992).

Do central government transfers reduce revenue efforts of local governments?

A major concern regarding central government transfers is that they could result in lower revenue efforts on the part of local governments. Since transfers are given without incentives for higher revenue efforts, there is a strong possibility that they might be used by local governments to substitute for their own revenues—that is, local taxes can be reduced without reducing the level of local expenditures. This is cause for concern because transfers are intended to augment local government incomes and increase provision of local services which are in inadequate supply.

Bahl and Schroeder (1983d) noted, however, that central government transfers may not be substitutive as suspected. Given the large backlog of unmet demand for public services, transfers are most likely to be spent on the provision of local government services. The studies reviewed earlier also suggest that money received by the local governments tends to increase public expenditures and not be passed on to the private sector as tax cuts—the phenomenon known as 'the flypaper effect'. There is also a view that central government transfers could result in greater local government revenue effort since additional revenues may be needed to operate and maintain the new facilities and services that are provided with the aid of transfers (World Bank, 1993).

The estimated revenue efforts of the provinces in Chapter 6 were regressed on the two major types of central government transfers and other factors acting as control variables. Various functional forms and specifications were tried in the estimation. Some of the estimation results are shown in Table 8.10. Only revenue capacity and proportion of population in agriculture and services (equation 2) appear to be significantly related to revenue effort. Provinces with high revenue capacities tended to have high revenue efforts. Most probably they have more qualified staff and the necessary tools, such as tax maps, to increase revenue collection efficiency. This result, however has to be taken with caution as the estimated relationship appeared highly unstable. In the other specifications of the model, the relationship between revenue effort and revenue capacity was not significant. In general, the independent variables did not perform well in explaining the variation in revenue efforts. The variation in revenue efforts could be due to other factors

(e.g., preferences and policies, staff qualifications, political leadership) which are difficult to quantify.

Table 8.11 **Estimation results of the revenue effort model regression results**

Dependent variable: Revenue effort			
No. of observations	66	66	66
	Regression coefficients and t-values:		
Regressors:	Equation 1	Equation 2	Equation 3
Constant	31.07	25.99	52.08
	(1.39)	(1.30)	10.88
Per capita internal revenue allotment	0.01	-0.007	0.01
	(0.24)	(-0.17)	(0.48)
Per capita grants	0.03	0.03	-0.005
	(1.05)	(1.22)	(-0.37)
Per capita revenue capacity	0.05	0.04	
	(1.51)	(1.67)*	
Average per capita income	-0.63E-3		
	(-0.08)		
Population density	-0.002	-0.002	
	(-1.38)	(-1.35)	
Pop'n in urban areas	-0.07		
	(0.49)		
Land area	-0.57E-3		
	(-0.78)		
Local road density	-3.04	-2.55	
	(-0.86)	(-0.75)	
Political fragmentation	-85986.1	-57217.0	
	(-0.92)	-0.70	
Population. in agriculture & services	0.37	0.40	
	(1.87)*	(2.18)*	
Consumer price index	0.03		
	(0.29)		
R-squared	0.13	0.11	0.004
Adjusted R-squared	-0.05	-0.12	-0.03

Note: *Significantly different from zero at the 10 per cent level (2-tailed test)
Source: Author's calculation

The null hypotheses that revenue shares and grants have no effect on revenue efforts cannot be rejected. Central government transfers neither stimulate nor substitute for local revenues. The concern regarding the substitutive effects of transfers was unfounded and suggestions of incorporating revenue effort incentives in the allocation of transfers, particularly revenue sharing, appear unwarranted. Introducing revenue effort incentives in the revenue sharing allocation formula may result in the dilution of its equity

effects. If increasing local government revenue effort is considered a priority objective, it may be better to set a separate amount that would be distributed solely on the basis of revenue performance.

Revenue sharing alternatives for the Philippines

Revenue sharing usually serves two major purposes: 1) to bridge the gap between the expenditure requirements and revenue capacities of recipient governments, and 2) to enable them to provide comparable levels of services if they exert comparable revenue efforts. The former deals with vertical fiscal imbalance and pertains to the total amount of revenue sharing funds. The latter is about horizontal fiscal balance or equity, and is concerned with the manner of its distribution. The two purposes are related, but each can be achieved independently.

The previous discussion noted that the revenue sharing program in the Philippines has failed to serve either objective. The revenue sharing program is complicated by local government fragmentation. The existence of several tiers of local governments makes it difficult to determine the appropriate amount of revenue sharing that is necessary to bridge the gap between the expenditure requirements and revenue capacities of local governments at each tier. For example, it was noted with regard to the recent decentralization reforms, that although the increments in revenue share of the aggregate local government sector may be sufficient or more than the costs of devolved functions, some local government tiers may experience budget difficulties. Provinces and municipalities are likely to experience budget deficits while cities and *barangays* enjoy surpluses.

Local government fragmentation has also worked against horizontal fiscal equity. The revenue sharing allocation formula, particularly its equal sharing component, is biased in favour of provinces with highly fragmented local government units. This in turn encourages greater local government fragmentation, which not only leads to greater inequity but also to higher costs in providing government services. In general, the current revenue sharing formula is not directly based on the fiscal capacities of local governments; thus, it can hardly be expected to achieve equity.

The revenue sharing practices of the countries described in the Appendix of this chapter provide a practical guide for reforming the current revenue sharing system in the Philippines. Reform can be initiated at the provincial level where expenditure needs and revenue capacities—or fiscal gaps—can be estimated with available data. The total revenue sharing fund can be allocated by province using a formula that explicitly take into account expenditure need and revenue capacity factor (See Appendix 8.3). The revenue share of each province can then be divided among the provincial government and the component cities, municipalities and barangays.

A better alternative, considering that cities are administratively independent of the provinces, is first to divide the total revenue sharing fund among provinces and cities using the same formula, and then to divide each share among their component local government units. At present, however, most of the socio-economic data necessary for estimating revenue capacity and expenditure need are limited to provinces and highly urbanized cities. A data base for the cities and municipalities should therefore be part of the agenda for reforming the revenue sharing program.

It is difficult to make any prescription regarding the distribution of revenue share to the different local government tiers that will achieve vertical fiscal balance. Most services cannot be regarded as the sole responsibility of any single tier. With a highly fragmented local government, the benefit span of many services are likely to extend beyond the boundaries of each local government. There are also services which have economies of scale. The size and fiscal capacities of local government units at each tier vary and the efficient provision of local government services may require a different organisational set-up or assignment of functions among local government units within each province or city. Thus, it is better to leave the decision regarding the distribution of revenue shares to the different local government tiers within the province or city. A better balance may be struck through a process of consultation rather than a rigid and fixed formula which is not suited to all local governments. The procedures and formula for revenue sharing, however, should be transparent and based on objective indicators.

Summary

Central government transfers to local governments can be broadly classified into two categories: revenue sharing and grants. Revenue sharing entails the allocation of fixed proportions of central government tax collections to local governments on the basis of formula prescribed by law. Grants consist of monies given to local governments, usually under the discretion of the President, to finance specific projects. There used to be three types of revenue sharing: internal revenue allotment, specific tax allotment, and the local government revenue stabilisation fund. The internal revenue allotment was the most significant of them. Presidential Decree No. 144 mandated that local governments be given an annual share of 20 per cent in the national internal revenue tax collections of the third preceding year. The internal revenue allotment and the specific tax allotment were first allocated to the different local government levels, and then divided to the various local government units within each tier based on three criteria: population size, land area, and equal share.

The laws governing revenue sharing, however, were not fully implemented due to budgetary constraint. The national government appropriated less than the amount prescribed by law; worse, the appropriations were never fully released to local governments. In conjunction with the decentralisation reforms, Republic Act 7160 unified all previous central government transfers into the internal revenue allotment, which was raised to a maximum of 40 per cent of the national internal revenue collection. The new law also amended the sharing formula by increasing the allocation of barangays, and by giving more weight to the equal sharing factor.

A number of studies had enquired whether the new internal revenue allotment would be adequate to match the new expenditure functions devolved to local governments. They all showed that full implementation of the new law would result in an overall surplus to local governments, with cities and barangays as the biggest beneficiaries. However, the internal revenue allotment should be evaluated in the wider context of all services that have to be delivered by local governments and the revenues they could generate. Given the limited data currently available, this is an important aspect of central government transfers to local governments which merits future study.

The equity of revenue sharing system was examined for three cases: (1) actual distribution; (2) Presidential Decree No. 144 allocation formula; and (3) Republic Act 7160 allocation formula. The results show that provinces with low revenue capacity tended to receive proportionately higher revenue shares, and *vice versa*. However, there are indications that revenue shares were not proportionately distributed to the expenditure needs of provinces. Thus, while the revenue sharing distribution promoted equity in revenue capacities, they seemed to worsen inequity in expenditure needs. Using a summary measure of fiscal capacity, that is the expenditure need–revenue capacity gap or fiscal gap, the study reveals that the distribution of revenue shares is generally inequitable. Revenue shares were not distributed proportionately to the size of the fiscal gaps. The same is true for the distribution of grants. The study also shows that the revenue sharing distribution under Republic Act 7160 was the most inequitable. This can be partly blamed on the higher weight assigned to an equal share in the distribution formula, which is biased in favour of provinces with highly fragmented local governments.

Central government transfers neither stimulate nor substitute for local revenues. The concern regarding the substitutive effects of transfers was unfounded. Suggestions of incorporating revenue effort incentives in the allocation of transfers, particularly revenue sharing may only run counter to its equity objective.

Appendix 8.1 **Revenue shares and grants, by province** (Pesos)

	Internal revenue allotment						Grants	
	Case 1: Actual		Case 2: P.D. No.144		Case 3: R.A. No.7160			
Province	**Total**	**Per capita**	**Total**	**Per capita**	**Total**	**Per capita**	**Total**	**Per capita**
Metro Manila	892,036,977	112.23	955,182,960	120.17	780,276,498	98.17	137,766,083	17.33
Abra	48,369,442	261.82	51,008,492	276.11	64,198,605	347.50	13,497,633	73.06
Benguet	81,623,077	168.00	80,579,608	165.85	86,794,708	178.64	24,627,083	50.69
Ifugao	33,447,397	227.10	34,880,258	236.83	41,521,309	281.92	18,435,664	125.17
Kalinga-Apayao	62,317,548	294.26	66,455,429	313.80	77,240,062	364.73	12,883,806	60.84
Mtn. Province	27,958,823	239.92	29,517,693	253.29	36,770,909	315.54	3,638,012	31.22
Ilocos Norte	86,381,162	187.11	84,078,090	182.12	95,084,153	205.96	22,600,147	48.95
Ilocos Sur	78,671,118	151.30	80,340,894	154.51	83,656,729	160.89	36,608,859	70.41
La Union	72,095,273	131.38	73,815,401	134.52	69,867,576	127.32	226,297,448	412.39
Pangasinan	276,317,502	136.77	271,704,015	134.49	251,657,552	124.57	123,093,996	60.93
Cagayan	138,561,572	166.97	144,366,040	173.96	141,765,217	170.83	21,683,964	26.13
Isabela	171,370,319	158.63	181,096,611	167.63	174,790,882	161.79	185,124,571	171.36
Nueva Viscaya	58,106,330	192.93	59,367,706	197.12	64,119,556	212.90	72,899,350	242.05
Quirino	32,366,518	283.59	33,153,442	290.48	39,921,612	349.78	9,111,435	79.83
Bataan	57,209,486	134.36	58,278,138	136.87	55,298,936	129.87	50,212,982	117.93
Bulacan	172,541,197	114.63	179,677,982	119.37	146,549,215	97.36	57,388,324	38.13
Nueva Ecija	207,946,839	158.41	202,662,649	154.39	209,361,704	159.49	44,947,022	34.24
Pampanga	191,675,728	125.06	190,042,669	124.00	164,721,674	107.48	100,363,610	65.49
Tarlac	110,535,380	128.57	113,517,558	132.04	100,006,368	116.33	60,817,192	70.74
Zambales	100,339,912	178.23	95,636,830	169.87	101,089,427	179.56	19,176,614	34.06
Aurora	37,157,202	266.22	37,281,651	267.11	44,131,916	316.19	2,187,999	15.68
Batangas	210,953,065	142.85	209,356,746	141.77	204,395,763	138.41	57,145,467	38.70
Cavite	146,676,529	127.26	152,498,434	132.32	152,254,928	132.10	46,291,858	40.17
Laguna	171,276,542	125.00	175,369,431	127.99	159,103,658	116.11	35,867,680	26.18
Marinduque	28,020,154	151.03	29,636,154	159.74	31,988,667	172.42	17,047,420	91.89
Mindoro Occ.	64,280,774	227.47	66,608,645	235.71	72,402,860	256.21	7,421,799	26.26
Mindoro Or.	91,250,062	165.89	87,489,878	159.06	84,420,778	153.48	11,993,865	21.81
Palawan	195,782,429	370.60	199,667,636	377.95	243,408,315	460.75	20,625,236	39.04
Quezon	211,084,281	153.80	210,835,176	153.62	203,491,497	148.27	16,698,043	12.17
Rizal	110,060,204	112.60	115,525,707	118.19	94,903,181	97.09	5,917,779	6.05
Romblon	40,591,742	178.33	39,078,891	171.68	44,543,303	195.69	26,435,789	116.14
Albay	129,490,405	143.28	125,527,431	138.89	119,865,159	132.63	51,750,050	57.26
Camarines Nor.	58,911,708	150.68	58,519,825	149.67	57,417,985	146.86	4,685,281	11.98
Camarines Sur	186,385,986	142.72	192,547,495	147.44	191,190,723	146.40	72,851,129	55.79
Catanduanes	35,296,145	188.75	34,034,660	182.00	38,750,711	207.22	17,880,770	95.62
Masbate	93,028,448	155.21	92,593,159	154.49	89,826,545	149.87	11,675,854	19.48
Sorsogon	74,188,274	141.86	73,416,026	140.39	69,456,614	132.81	10,160,866	19.43
Aklan	57,918,078	152.22	57,282,930	150.55	58,117,297	152.74	27,102,348	71.23
Antique	64,102,206	157.75	63,889,790	157.22	64,925,449	159.77	14,536,239	35.77
Capiz	81,966,068	140.33	90,927,556	155.67	94,772,858	162.26	47,931,836	82.06
Iloilo	245,963,383	139.32	239,574,494	135.70	224,420,037	127.12	123,630,723	70.03
Negros Occ.	402,980,255	178.55	372,768,959	165.17	393,951,693	174.55	68,478,723	30.34
Bohol	139,129,953	146.70	141,988,185	149.71	145,426,304	153.34	38,544,868	40.64
Cebu	404,701,795	152.92	377,370,802	142.59	372,535,222	140.76	89,842,405	33.95
Negros Or.	170,606,305	184.39	162,105,666	175.20	179,620,822	194.13	23,537,577	25.44
Siquijor	15,631,911	211.44	14,901,208	201.55	20,362,136	275.42	5,108,750	69.10
Eastern Samar	69,104,890	209.83	66,745,911	202.67	73,986,157	224.65	8,805,449	26.74
Leyte	242,555,485	163.25	232,023,841	156.16	240,994,022	162.20	34,807,090	23.43
Northern Samar	70,005,941	182.47	68,264,839	177.93	73,255,279	190.94	21,363,511	55.68
Western Samar	127,867,968	239.57	123,697,305	231.76	145,327,073	272.28	16,604,301	31.11
Southern Leyte	52,601,621	163.39	51,348,612	159.50	54,797,759	170.21	31,529,381	97.94
Zamboanga N.	134,704,451	199.01	136,540,199	201.73	156,013,379	230.50	41,298,490	61.01
Zamboanga Sur	292,587,099	189.44	279,414,289	180.91	296,982,284	192.28	78,162,190	50.61
Agusan Norte	98,791,491	212.25	90,432,396	194.29	102,782,279	220.82	14,993,619	32.21
Agusan del Sur	94,174,213	223.82	97,747,567	232.31	103,080,643	244.99	1,670,465	3.97
Bukidnon	136,840,387	162.15	140,205,218	166.14	133,823,328	158.58	9,878,473	11.71
Camiguin	13,650,054	212.46	13,033,883	202.87	18,330,951	285.32	571,600	8.90
Misamis Occ.	103,429,668	243.73	89,600,126	211.14	117,122,831	276.00	5,746,018	13.54
Misamis Or.	170,765,173	197.40	153,852,173	177.85	170,410,233	196.99	21,746,377	25.14
Surigao Norte	89,090,021	209.14	81,154,556	190.51	95,949,095	225.24	19,623,041	46.07
Cotabato North	115,077,383	150.63	122,423,817	160.24	115,295,027	150.91	16,970,713	22.21
Lanao del Norte	97,136,221	158.18	115,052,755	187.35	128,849,874	209.82	8,710,087	14.18
Sultan Kudarat	74,281,081	170.41	76,681,708	175.91	76,621,677	175.78	25,910,623	59.44
Sulu	64,510,126	137.26	65,953,975	140.34	64,353,236	136.93	19,623,766	41.76
Maguindanao	118,979,944	157.02	123,126,554	162.49	125,106,481	165.10	10,536,796	13.91
TOTAL	8,533,458,721		8,533,458,721		8,533,458,721			

Source: Author's calculation

Appendix 8.2 **Fiscal Gaps, by province (in Pesos)**

Province	Actual fiscal gap	Compensated fiscal gap			Grants
		Internal revenue allotment			
		Case 1	Case 2	Case 3	
Metro Manila	-167.96	-280.19	-288.13	-266.13	-185.29
Abra	275.91	14.09	-0.19	-71.59	202.85
Benguet	151.40	-16.60	-14.45	-27.24	100.71
Ifugao	351.95	124.85	115.12	70.03	226.78
Kalinga-Apayao	321.00	26.74	7.20	-43.73	260.16
Mountain Province	329.73	89.81	76.44	14.20	298.51
Ilocos Norte	227.29	40.18	45.17	21.33	178.34
Ilocos Sur	283.51	132.21	129.00	122.62	213.10
La Union	227.13	95.75	92.61	99.81	-185.26
Pangasinan	284.34	147.56	149.85	159.77	223.41
Cagayan	266.25	99.28	92.29	95.42	240.12
Isabela	249.35	90.72	81.72	87.56	77.99
Nueva Viscaya	232.21	39.28	35.10	19.32	-9.83
Quirino	290.52	6.93	0.03	-59.27	210.68
Bataan	130.89	-3.46	-5.97	1.03	12.97
Bulacan	161.02	46.39	41.65	63.66	122.89
Nueva Ecija	269.39	110.98	115.00	109.90	235.15
Pampanga	183.81	58.74	59.81	76.33	118.32
Tarlac	264.37	135.79	132.32	148.04	193.62
Zambales	73.87	-104.36	-96.00	-105.69	39.81
Aurora	242.59	-23.64	-24.53	-73.61	226.91
Batangas	167.77	24.93	26.01	29.37	129.08
Cavite	182.86	55.60	50.55	50.76	142.70
Laguna	103.04	-21.96	-24.94	-13.07	76.86
Marinduque	242.64	91.61	82.90	70.22	150.75
Occidental Mindoro	253.05	25.58	17.34	-3.16	226.79
Oriental Mindoro	284.27	118.38	125.21	130.79	262.46
Palawan	254.19	-116.41	-123.76	-206.56	215.15
Quezon	258.75	104.95	105.13	110.48	246.58
Rizal	117.08	4.48	-1.11	19.99	111.03
Romblon	280.52	102.19	108.84	84.83	164.38
Albay	264.90	121.62	126.01	132.27	207.64
Camarines Norte	268.46	117.79	118.79	121.61	256.48
Camarines Sur	246.52	103.80	99.08	100.12	190.73
Catanduanes	282.90	94.15	100.90	75.68	187.29
Masbate	299.33	144.11	144.84	149.45	279.84
Sorsogon	322.00	180.14	181.62	189.19	302.57
Aklan	218.79	66.57	68.24	66.05	147.56
Antique	281.60	123.85	124.37	121.82	245.82
Capiz	242.37	102.04	86.70	80.11	160.31
Iloilo	233.57	94.25	97.87	106.45	163.54
Negros Occidental	152.29	-26.27	-12.88	-22.27	121.95
Bohol	313.24	166.54	163.52	159.90	272.59
Cebu	199.29	46.37	56.70	58.52	165.34
Negros Oriental	268.24	83.86	93.04	74.11	242.80
Siquijor	301.01	89.57	99.46	25.59	231.91
Eastern Samar	294.30	84.47	91.63	69.65	267.56
Leyte	241.62	78.38	85.47	79.43	218.20
Northern Samar	310.91	128.44	132.98	119.97	255.23
Samar (Western)	293.67	54.10	61.92	21.39	262.57
Southern Leyte	290.98	127.59	131.49	120.77	193.05
Zamboanga del Norte	299.44	100.43	97.72	68.95	238.43
Zamboanga del Sur	281.92	92.48	101.01	89.64	231.31
Agusan del Norte	245.13	32.89	50.85	24.31	212.92
Agusan del Sur	286.05	62.23	53.74	41.06	282.08
Bukidnon	262.81	100.66	96.67	104.23	251.10
Camiguin	258.31	45.85	55.44	-27.01	249.41
Misamis Occidental	254.57	10.84	43.43	-21.43	241.03
Misamis Oriental	196.58	-0.83	18.73	-0.42	171.44
Surigao del Norte	283.05	73.91	92.53	57.80	236.98
Cotabato (North)	299.22	148.59	138.98	148.31	277.00
Lanao del Norte	201.76	43.58	14.40	-8.06	187.57
Sultan Kudarat	256.19	85.79	80.28	80.42	196.75
Sulu	407.30	270.04	266.97	270.37	365.55
Maguindanao	272.65	115.64	110.16	107.55	258.75

Source: Author's calculation

Appendix 8.3 **Revenue sharing practices in selected countries**

Developed countries provide useful examples of revenue sharing programs that are systematically designed to promote horizontal equity.

Australia (Mathews, 1993). Australia's revenue sharing program is reputedly one of the most developed and complete in terms of promoting equity. It provides for both equalisation of revenue-raising capacity and expenditure needs. Its revenue sharing program can be characterized by the following model:

$$A_i = \frac{\beta_i}{\sum \beta_i} * A \qquad (8.4)$$

where $\beta_i = P_i[\frac{A}{\sum P_i} + \frac{R_S}{P_S} * \rho_i + \frac{E_S}{P_S} * \gamma_i]$ (8.5)

or assuming that a balanced budget applies (A = E - R):

$$\beta_i = P_i[\frac{E_S}{P_S}(1+\gamma_i) - \frac{R_S}{P_S}(1-\rho_i)] \qquad (8.5a)$$

where: A - fixed amount of revenue sharing grants from the Commonwealth government

A_i - revenue share of state i

P - population

R - revenue collections

Y - revenue base

E - expenditure

γ_i - differential costs of standard services in state i relative to standard per capita cost

ρ_i - differential revenue capacity of state i relative to standard revenue capacity

s - subscript denoting standard

The model describes the distribution of a fixed amount of revenue sharing grants from the Commonwealth Government to states and territories, on a population basis adjusted for differences in relative revenue-raising capacity and differences in relative costs of providing services or expenditure needs. The relative revenue capacity and expenditure needs of the states are assessed with respect to standards in order to isolate the effects of state policies. The standards are based on actual state budgets, and relativity assessments are made with respect to specific revenue and expenditure items adjusted for differences due to factors which are beyond states' control. The revenue sharing grants equalized all states' revenue raising capacity and expenditure needs to the standard which is the average of all states.

The Commonwealth Grants Commission, an independent statutory body, assesses the revenue and expenditure needs and consequently, the revenue shares of the different states. Major reviews of methodology and revenue shares are conducted every five years, followed by annual updates using new data but the same methodology. Local governments have separate revenue sharing arrangements, which are less comprehensive and less systematic compared to the states. This is because the large number of local authorities and the incomplete data make the task of comparing their revenue capacities and expenditure needs virtually impossible.

Japan and the United Kingdom. Japan's Local Allocation Tax and the United Kingdom's Rate Support Grant (later, Revenue Support Grant) have some similarities to the Australian model. Both revenue sharing programs consider the relative revenue capacities and expenditure needs of recipient governments in their distribution.

Japan's Local Allocation Tax entails the allocation to local governments of a fixed share of certain central government taxes: 32 per cent of the total yields of the income tax, corporation tax, and liquor tax, 24 per cent of the consumption tax, and 25 per cent of the tobacco tax. The regular Local Allocation tax, consisting of 94 per cent of the total, is distributed to local governments on the basis of the following formula (Yonehara, 1981):

$$A_i = \alpha E_i - R_i \qquad (8.6)$$

where: $\alpha = 1 - (\frac{T - A}{B})$ (8.7)

A_i – regular allocation tax received by local government i

E_i – basic expenditure need of local government i

R_i – basic revenue of local government i

T – the sum of deficiencies

A – total fund for regular allocation tax

B – the sum of the basic financial needs of local governments whose basic financial needs exceed their basic revenues

The amount of regular allocation tax received by a local government is basically determined by the difference between its basic expenditure need and basic revenue. Local governments (e.g., Tokyo, Kanagawa, Aichi and Osaka prefectures and another 170 municipal governments) whose basic revenues exceed their basic financial need, do not receive any share of local allocation tax (FAIR, 1992). The adjustment coefficient factor α is used when the total amount of regular allocation tax is less than total deficiencies of local governments—that is, a factor less than 1 is multiplied by the basic expenditure need.

The determination of basic expenditure needs and revenues in the revenue sharing formula is made without reference to actual expenditures and revenues of individual local governments to eliminate the effects of local government policies on the allocation of revenue shares. The Ministry of Home Affairs computes the basic expenditure need for each individual local government function as follows:

E_i = (Unit of measurement) x (Unit cost) x (Adjustment coefficient)

The unit of measurement is a figure which provides an appropriate measure for the cost of the service selected—for example, the number of policemen with respect to police services. The adjustment coefficient allows for differences in costs of providing services due to varying socio-economic and physical factors of local governments. The basic revenue is the sum of the local transfer tax and a prescribed percentage of the standardized local tax revenue.

The United Kingdom's revenue sharing program has undergone several changes in conjunction with the reforms in local government taxation. But essentially, the central government revenue sharing program with local governments continued to be governed by the difference between standardized expenditures and revenues, with the objective of enabling all local government authorities to provide a comparable level of services if they levied similar rates of local taxes.

Canada and the United States. The revenue sharing program of Canada is mainly focused on equalization of revenue capacity, but Canada is currently considering the inclusion of expenditure needs as well. Canada's program is open ended; the total amount of revenue sharing funds depends on the differences in the provinces' standardized revenues that have to be equalized. This creates problems for the federal government budget when large variations in revenues among provinces occur, as has happened when provinces with small population have collected very large oil and gas revenues. The amount of revenue share received by each province depends on its relative revenue capacity. This is assessed on the basis of a representative tax system which applies an average revenue effort to each tax base. Only those provinces with revenue capacity below the standard (that is, the average revenue capacity of the five median provinces) are given grants (Mathews, 1993; Courchene, 1984).

There is a wide diversity in the design of revenue sharing programs in the United States. Many are designed in an *ad hoc* manner. An exception is the revenue sharing program of the state of Massachusetts which was designed by a task force consisting of economists, legislative staff members and other interested parties (Bradbury, et al., 1984). The basic formula parallels the Australian model and has similarities to the models discussed by Musgrave (1961), and Le Grand and Reschovsky (1971). Revenue shares are distributed to local governments based on their fiscal disadvantage, which is defined as the difference between a local government's fiscal gap (G_i) and a standard fiscal gap (Γ), which is a policy choice variable. The revenue sharing fund is fixed, hence, its distribution to local governments must meet the following conditions:

$$\sum_i A_i P_i = A \qquad (8.8)$$

$$A_i = r[G_i - \Gamma] \tag{8.9}$$

$$A_i > 0 \tag{8.10}$$

Equation (8.8) states that the total amount of revenue sharing fund (A) equals the sum of per capita revenue share (A_i) of each local government multiplied by its population (P_i). Conditions (8.9) and (8.10) limit the distribution of revenue share only to those local governments whose fiscal gap is less than the chosen standard; r measures the fraction of the fiscal disadvantage offset by the revenue share, which is constant across local government. Equations (8.8) and (8.9) can be solved for the following equilibrium values of A_i and r:

$$A_i = \frac{[G_i - \Gamma]A}{\Sigma_i[G_i - \Gamma]P_i} \tag{8.11}$$

or $$A_i P_i = \frac{[G_i - \Gamma]A P_i}{\Sigma_i[G_i - \Gamma]P_i} \tag{8.11a}$$

$$r = \frac{A}{\Sigma_i[G_i - \Gamma]P_i} \tag{8.12}$$

Equations (8.11) and (8.11a) determine respectively, the per capita revenue share and total revenue share a local government receives. Both are proportional to a local government's fiscal disadvantage. Equation (8.12) determines the fraction of fiscal disadvantages of local governments offset by revenue shares. It depends on the total amount of revenue sharing funds and the standard fiscal gap. The standard fiscal gap is a policy choice variable which alters the distribution of revenue shares across local governments. A high standard fiscal gap would result in greater equalization because only those local governments with high fiscal gaps receive revenue shares and each receives a higher amount. With a low standard, the revenue sharing fund is spread thinly across a greater number of local governments, and those with high fiscal gaps receive less.

The model yields other interesting results which could be useful to policy makers. If full fiscal equalization is desired (that is r = 1), the model can provide: (1) an estimate of the total revenue sharing fund that is necessary:

$$A = \Sigma_i [G_i - \Gamma] P_i \qquad (8.12)$$

or, (2) with a predetermined amount of revenue sharing fund, an appropriate fiscal gap standard:

$$\Gamma = \frac{\Sigma_i G_i P_i - A}{\Sigma_i P_i} \qquad (8.13)$$

9
Summary and conclusions

The objective of this study was to assess whether central government transfers to local governments in the Philippines promote equity and mobilise local revenues. The promotion of equity is a major goal of central government transfers, but it is not often met in practice. The concept of equity is not clearly defined in the policy pronouncements of the government. The design of transfers and their implementation have no theoretical basis and are largely *ad hoc*.

The study examined the equity of central government transfers in relation to the fiscal capacities of the provinces. The literature suggests that fiscal capacity equalisation is one of the few policy instruments that promote both equity and efficiency. Equity is defined in terms of horizontal equity or 'equal treatment of equals'. Differences in fiscal capacities—that is the ability of governments to provide services—can result in horizontal inequities. Individuals who are similar in all respects except for their place of residence are treated unequally in terms of the tax burden exacted and/or services provided by their local government. This can lead to inefficient migration and allocation of resources.

The fiscal capacities of the provinces were measured by their fiscal gaps or expenditure need–revenue capacity gaps. First, the revenue capacities of the provinces were estimated using a random coefficient regression model. Four revenue base–related factors—namely, per capita assessed property values, establishments per capita, registered vehicles per capita, and percentage of renter–households—were found to be significantly related to the per capita revenues of the provinces. The response coefficients of per capita revenues to these factors, except for establishment per capita, varied across provinces. The provinces thus exploited their revenue bases to varying degrees. The highest estimated coefficients (indicating best effort or practice) measure the maximum contribution of each factor to the revenue of a province. These coefficients were applied to the respective revenue base factors of the provinces to calculate their revenue capacities, that is, the maximum revenues that they can generate.

The estimated revenue capacities of provinces varied considerably, ranging from a minimum of P26 per capita in Sulu to a maximum of P1,115 per capita in Metro Manila.

Following the measurement of revenue capacities, the expenditure needs of the provinces were estimated. Per capita government expenditures of the provinces were regressed on revenue capacities, per capita transfers, and provincial socioeconomic and political characteristics. The regression results showed that per capita government expenditures were significantly affected by various factors, which can be broadly classified into: resource factors consisting of revenue capacities and per capita transfers, political or preference factors consisting of political fragmentation, and cost factors which consist of the consumer price index, population density and percentage of the population in agriculture and services. The last category is also referred to as expenditure need or cost disability factors; provinces with these characteristics need to spend more to provide a given standard of public services.

Based on the regression results, provincial cost indices of providing local government services were calculated. The calculated cost indices vary. Metro Manila and Sulu—with the highest and lowest revenue capacity, respectively—had the highest cost indices. The provision of a given set of public services would cost 32 percent more per capita in Metro Manila and 25 percent more per capita in Sulu compared to the average cost in the provinces of Quirino and Bukidnon. Negros Occidental had the least cost index; it would spend 14 percent less per capita than the average cost provinces in providing the same services. The expenditure need of each province was computed by multiplying its respective cost index by the average per capita expenditures of all provinces (which was used as the standard). Thus, the expenditure needs of provinces reflect variations attributed to differences in costs alone. A comparison of the estimated expenditure need and actual expenditures using the Spearman rank correlation showed that the provinces with high actual expenditures do not necessarily have high expenditure needs.

The fiscal gap was measured by the difference between the expenditure need and the standardised revenue capacity.[1] Except for Metro Manila, all provinces had positive per capita fiscal gaps. Their expenditure needs exceeded their revenue capacities. Among the provinces with high fiscal gaps (in pesos per capita) were Sulu (P407), Ifugao (P352) and Mountain Province (P330). The provinces with low fiscal gaps, aside from Metro Manila (-P168) were Zambales (P74), Laguna (P103) and Rizal (P117).

The fiscal gap provided the basis for evaluating the equity of central government transfers, particularly revenue sharing. Revenue sharing consists of national internal revenue allotment, specific tax allotment and the local government revenue stabilisation fund which is allocated to local governments based on a three–factor formula consisting of population, land area and equal sharing. Revenue sharing is considered equitable if it compensates the fiscal disabilities of the provinces proportionately to their fiscal gaps, thereby minimising the variability of fiscal gaps across provinces. The Spearman rank correlation coefficient and the Schutz coefficient of inequality were the two measures used to assess the equity of revenue sharing.

The equity of the revenue sharing system was examined for three cases. Case 1 represents the actual distribution of revenue shares to local governments in 1991 which is the base year of the calculated fiscal gaps. Case 2 simulates a distribution of revenue shares based on the provision of Presidential Decree No. 144, which was the basis of revenue sharing during that year. Case 3 simulates a distribution of revenue shares under the new local government code which took effect in 1992. The Spearman rank correlation coefficient indicated that provinces with high fiscal gaps tended to obtain high revenue shares. However, the revenue shares were not distributed proportionately to the size of the fiscal gaps. The Schutz coefficients of inequality of the compensated fiscal gaps in all three cases of revenue sharing were higher than the coefficient of inequality of the fiscal gaps without revenue sharing, suggesting that revenue sharing distributions tended to worsen inequity. The same was true of the grants given to local

[1]The standardised revenue capacity equals the product of the average revenue effort and the estimated revenue capacity of a province.

governments on a purely *ad hoc* basis. This is not surprising as the bases for revenue sharing and grant distribution are not related to the fiscal gaps of the provinces.

The revenue sharing distribution under the new local government code appeared to be the most inequitable. This can be partly blamed on the higher weight assigned to an equal share in the distribution formula. It is biased in favour of provinces with highly fragmented local governments. Because running local governments has fixed costs, the expenditure regression showed that local government fragmentation resulted in higher per capita expenditures. In measuring expenditure needs, differences in costs due to political fragmentation are not included because such differences are considered a political or policy choice variable. By compensating the costs of political fragmentation, the revenue sharing system unnecessarily encourages local government fragmentation which, besides being inequitable, increases the cost of local government services.

Local government fragmentation, in particular the existence of several tiers of local governments, also makes it difficult to determine the appropriate amount of revenue sharing that is necessary to bridge the gap between the expenditure requirements and revenue capacities of local governments at each tier. Although the increments in revenue share of the aggregate local government sector may be sufficient or even higher than the costs of devolved functions as a result of the recent decentralisation reforms, some local government tiers may experience budget difficulties.

The revenue effort—the ratio of actual revenue to revenue capacity—was used to evaluate the effects of central government transfers on local revenue mobilisation. The revenue effort was regressed on central government transfers, and other factors serving as control variables to avoid bias estimates. The regression result showed that central government transfers were not significantly related to the local government revenue effort. Central government transfers neither encouraged nor discouraged local government revenue effort.

In summary, the results of the study show that central government transfers failed to promote equity and encourage local revenue mobilisation. The evaluation and

the reform of central government transfers must, however, be considered in conjunction with other aspects of intergovernmental fiscal relations.

In analysing local revenue mobilisation, it is important to take into account the constraints on local taxation. Local governments are limited to levying mostly minor taxes and their taxing powers are limited by rate ceilings and tax exemptions prescribed by national laws. Local governments are also unable to fully exploit their revenue bases because of administrative limitations. The poor growth performance of real property tax, for example, is mainly attributable to the undervaluation of properties. Many local governments do not have sufficient technical expertise and basic tools like tax maps which are necessary to establish a complete inventory of real properties.

The inclusion of revenue effort in the allocation formula for central government transfers—which is often recommended—may not result in greater local revenue mobilisation because of the constraints on local taxation mentioned above. Reforms in the local tax structure and technical assistance from the central government would be necessary to increase revenue effort. Nationwide tax mapping and application of common market valuation criteria by the central government, for example, are necessary steps in maximising the revenues from real property tax which is the single most important tax of local governments.

To safeguard against the substitution of local revenues by central government transfers, a maintenance of revenue effort requirement is considered more appropriate than a revenue effort pro-rated distribution. The latter may conflict with equity. The revenue effort regression model shows that provinces with high revenue capacities tended to have high revenue efforts as well. They have the resources to hire more and better qualified staff.

It is not advisable to assign too many objectives (for example, capacity equalisation and revenue effort promotion) on a single type of central government transfer. The literature suggests that for each objective there is a corresponding type or design of transfer. The internal revenue allotment could be designed basically to promote equity through fiscal capacity equalisation. It could be allocated to local governments in proportion to the size of their fiscal gaps relative to a certain fiscal gap

standard. Initially this could be implemented at the provincial level where expenditure needs and revenue capacities—or fiscal gaps—can be estimated from available data. The revenue share of each province could then be divided among the provincial government and the component cities, municipalities and barangays. Note that this would be likely to work against provinces with highly fragmented local governments. Considering the high dependence of local governments on central government transfers, the viability of some local government units would be affected, and mergers would be necessary. The highly fragmented local government system has equity and efficiency implications which need to be studied in depth.

The allocation of development funds to local governments in the national and regional planning and budgeting process, on the other hand, can be designed as specific purpose transfers with the objective of promoting local government revenue effort and encouraging development expenditures. Local governments may be required to finance part of the costs of the projects they propose for national government financing in their investment programs, or, development funds can be allocated to proposed local government projects based on the amount they are willing to provide as counterpart. This provides the national government with an instrument for influencing, but not constraining, local government budgetary decisions. This is particularly important in the efficient provision of local development projects which generate externalities.

Finally, it is important that local government fiscal and socioeconomic data be improved. The measurement of revenue capacity, revenue effort and expenditure need in this study could be greatly improved if better data were available. There is a need, in particular, to provide for greater uniformity in the accounting practices of local governments and to come up with data that better meet the demands of policy impact studies. Local government sector policies could then be evaluated in terms of their impacts and not their objectives.

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